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HIGHWAY TRAFFIC SAFETY: POLICY FOR COMBATTING TRAFFIC BULLYING

KAPGEM Series – 6

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KAMU POLİTİKALARI ARAŞTIRMA VE GELİŞTİRME MERKEZİ

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Karabuk University Publications

KAPGEM

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Highway Traffic Safety:

Policy for Combatting Traffic Bullying

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57 pages, Bibliography included, Index not included.

KARABUK UNIVERSITY PUBLICATIONS – 000

E-ISBN: 000-000-00000-0-0

December 2025

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ABBREVIATIONS

KAPGEM: Public Policy Research and Development Center

TOBB: Union of Chambers and Commodity Exchanges of Türkiye

TÜİK: Turkish Statistical Institute

NGO: Non-Governmental Organization

VR: Virtual Reality

MTV: Motor Vehicle Tax

FOREWORD

Highway traffic safety is not merely a technical domain within the contemporary public administration framework; it is also a fundamental field of public responsibility that directly concerns individuals' right to life, societal welfare, and public order. In modern societies, the establishment of a safe, orderly, and accessible transportation infrastructure is not only a matter of physical planning but also requires a comprehensive policy process that encompasses ethical, cultural, and administrative dimensions. In this context, road traffic safety is a public policy objective that enhances citizens' quality of life, supports social cohesion, and strengthens social capital.

The increasing risks in traffic cannot be understood solely through technical deficiencies or shortcomings in enforcement; they must be examined through the holistic evaluation of individuals' ethical perceptions, behavioral patterns, and institutional capacity. In this regard, strategic approaches focusing on the structural causes and prevention of individual violations especially **- traffic bullying -** emerge as one of the essential components of creating a safe living environment at the societal level. Such behavioral patterns must be managed systematically not only through punitive measures but also through social awareness, legal norms, and technological monitoring tools.

This report, prepared by the Security Policies Unit operating within the Karabük University Public Policy Research and Development Center (KAPGEM), presents a holistic model addressing the development of multi-level public policies in the field of road traffic safety, encompassing their planning, implementation, and monitoring processes. This set of recommendations, applicable under diverse geographical and administrative conditions across Türkiye, offers strategic guidance for policymakers, local governments, law enforcement units, and civil society. The model presented in the report demonstrates that a scientifically grounded, multi-stakeholder and sustainable public policy design that prioritizes public benefit is indeed possible.

The primary objective of this report is not only to produce solutions to existing problems but also to **develop a transformative and proactive approach in public policy**. In this regard, dimensions such as education, legal regulations, technological innovations, data-driven analyses, and societal awareness have been brought together.

The framework of the report aims to establish a multi-actor governance model in line with Türkiye's **"National Goal: Road Safety,"** proposing the inclusion of a broad stakeholder spectrum—from central administration to local governments, and from academic institutions to civil society—into the process. In this respect, the study not only presents a policy proposal but also puts forward a **normative vision grounded in public–private cooperation, participatory governance, and the principles of sustainable development**.

Through this report, it is aimed to provide a comprehensive roadmap to decision-makers, practitioners, and policy observers and to pave the way for both normative and structural transformation in the field of road traffic safety in Türkiye.

1. OBJECTIVE AND SCOPE

Road traffic accidents in Türkiye persist not only as momentary tragedies but also as a long-standing structural public health issue. According to the Turkish Statistical Institute's (TÜİK) 2014-2024 data, the number of fatalities in traffic accidents over the last decade has reached 62.762 (TÜİK, 2025)[1]. This means that more than 6.000 people lose their lives on the roads each year. During the same period, 3.024.470 individuals were injured to varying degrees. These statistics clearly demonstrate that road transportation is not only a technical matter but also a safety issue with ethical, social, and psychological dimensions. The losses that directly affect hundreds of thousands of families reveal the necessity of addressing road traffic safety not merely as a transportation matter but as a public policy priority aimed at protecting societal welfare and human dignity.

Public institutions carry out various activities to ensure road traffic safety. However, the fundamental problem with the road traffic safety is the lack of continuous policies that transform behavior aimed at combating traffic bullying. For sustainable improvement processes in road traffic safety, Deming's PDCA (Plan–Do–Check–Act) cycle constitutes an important reference point. This cycle is a management tool that begins with defining the problem, proceeds through implementation and monitoring steps, and enables the restructuring of the system by taking preventive measures based on the results obtained (Kavsıracı, Arslan, & Tine, 2022, p. 46).

In line with this understanding, combating traffic bullying requires not only that individuals learn the rules but also that they develop awareness, acquire emotional self-regulation, and internalize ethical behaviors. Therefore, a multidimensional public policy proposal is presented with the aim of raising awareness among drivers, fostering ethical consciousness, and ensuring permanent behavioral change.

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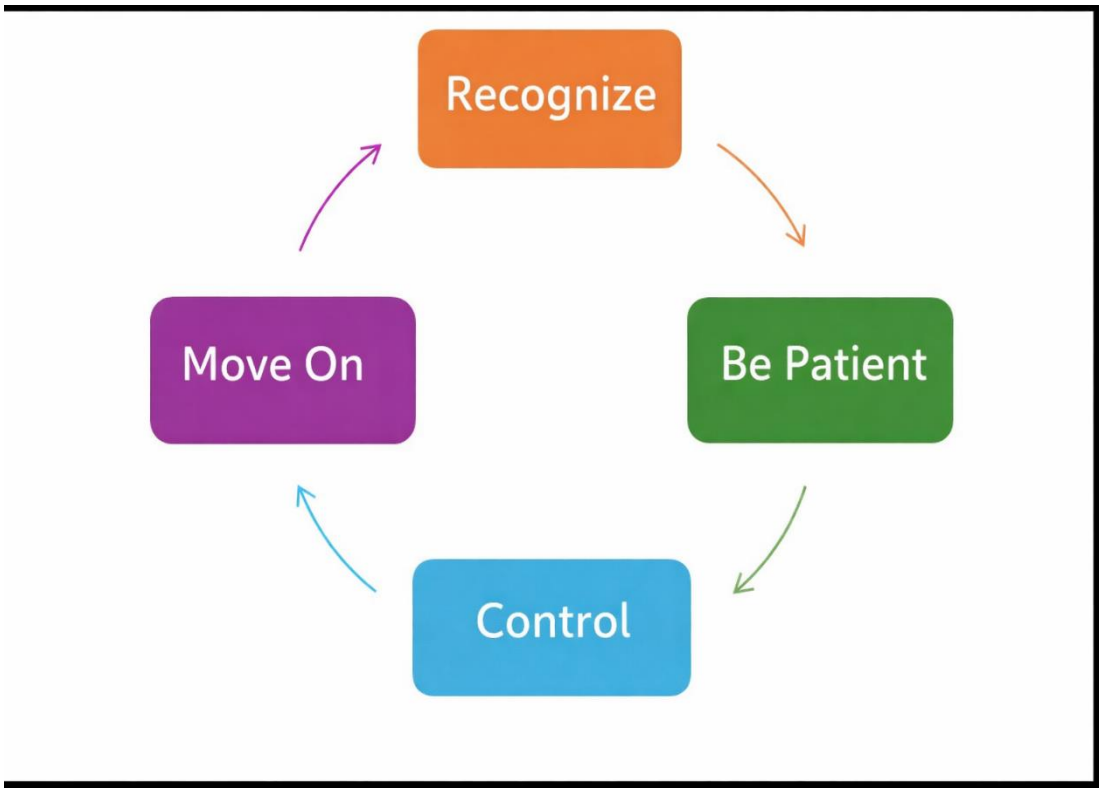
[1] Despite pandemic restrictions, a notable consistency in traffic fatality rates is observed in Türkiye. The COVID-19 pandemic led to the implementation of measures in 2020 that severely restricted public mobility across the entire country. Particularly following March 2020, weekend curfews, intercity travel restrictions, and regulations concerning public and private vehicle use were expected to result in a significant decline in motor vehicle traffic. However, road traffic accident data published by the Turkish Statistical Institute (TÜİK) indicates that this expectation did not fully materialize, especially concerning fatal accidents.
According to TÜİK data, in 2019, a total of 1.168.144 traffic accidents occurred across Türkiye, resulting in 5.473 fatalities. Of these deaths, 2.524 occurred at the scene, while 2.949 occurred within 30 days after the accident (TÜİK, 2020). In 2020, the total number of accidents decreased to 983.808, representing an approximately 15% decline in the overall accident rate. However, the number of fatal-injury accidents was recorded as 150.275, resulting in 4.866 deaths. The reduction in the number of fatalities remained only around 11% (TÜİK, 2021).
These data are notable in terms of the imbalance between the reduction rates of the total number of accidents and the number of fatalities. Despite a significant decrease in overall traffic volume due to the pandemic, no substantial improvement was observed in the fatality rate of accidents. This can be explained by factors such as increased speed violations in low-density traffic, a higher frequency of risky driving behaviors, and shifts in individual vehicle use along with the psychological effects of the restrictions. Notably, the proportion of fatalities occurring outside residential areas was 52,5% in 2019, which rose to 52,6% in 2020.
In this context, although the restrictions implemented during the pandemic may appear to have reduced traffic density, it can be concluded that the structural causes of fatal accidents were not eliminated; in fact, certain risk factors may even have intensified.

In today's world, where security is becoming increasingly complex and multi-layered, it is necessary to develop holistic and sustainable strategies against threats faced by individuals, institutions, and societies. Within this framework, the KAPGEM Security Policies Unit proposes the following four-step approach as its core message:

"Recognize, Be Patient, Control, Move on."

Figure 1: Traffic Bullying Combat Cycle



Recognize: Recognize bullying behaviors, become aware of their effects on traffic.

Be Patient: Develop self-control in emotional tension, delay your reaction.

Control: Regulate your behavior, speed, and communication within ethical standards.

Move On: Proceed safely and respectfully, maintaining positive behavior.

This four-stage approach aims to instill in drivers not only compliance with traffic rules but also an ethical traffic culture based on respect for the presence and right to life of others. This understanding targets a multi-layered transformation ranging from individual behavior to societal norms. The applicability of the model will be tested under different geographical and socio-economic conditions, forming the foundation for nationwide public policies that will strengthen road traffic safety. Within this framework, it is recommended that the model should be continuously reviewed, adapted as necessary, and expanded based on the data

obtained throughout the implementation processes. The experiences and output acquired during the process are expected to guide the development of a public policy framework that is particularly deterrent and transformative against traffic bullying.

2. RATIONALE

Road traffic safety should be addressed not only as a technical issue within the framework of the responsibility to protect individuals' right to life but also as a multidimensional public policy area with social, psychological, and ethical dimensions. Deaths and injuries occurring in traffic do not only result in individual losses; they also harm social cohesion, public health, and the perception of safety. In this context, dangerous, aggressive, and coercive behavioral patterns exhibited while driving—attitudes commonly referred to as **traffic bullying**—constitute both a cause and a consequence of the road traffic safety problem.

Traffic bullying is a behavioral pattern that harms not only physical safety but also the psychological well-being, mutual respect, and social harmony of road users. Although such behaviors are indirectly addressed within the existing legislation, they lack a clear framework both in terms of definitional clarity and preventive policy instruments. This deficiency prevents the efforts undertaken to ensure road traffic safety from producing a holistic impact and renders the behavioral and cultural dimensions of the problem invisible.

For this reason, policy designs targeting traffic bullying should focus not only on penalizing individual mistakes but also on creating ethical awareness, disseminating empathy-based behavior patterns, and transforming driver culture in the long term. In this context, **the Road Traffic Safety Strategy Document 2021–2030** and **the 2021–2023 Action Plan** prepared by the Ministry of Interior of the Republic of Türkiye are among the fundamental documents guiding road traffic safety policies, expanding the institutional framework by placing the safe system approach at its center. Accordingly, the safe system approach is based on:

> "…the premise that people are prone to making mistakes and are also vulnerable, and that governments have the responsibility to ensure the safety of individuals, the task of protecting vulnerable and error-prone individuals in traffic has been assigned to the system. […] According to the safe system approach, the road system should be designed in such a way that human errors do not lead to serious or fatal consequences." (Ministry of Interior of the Republic of Türkiye, 2021, p. 18).

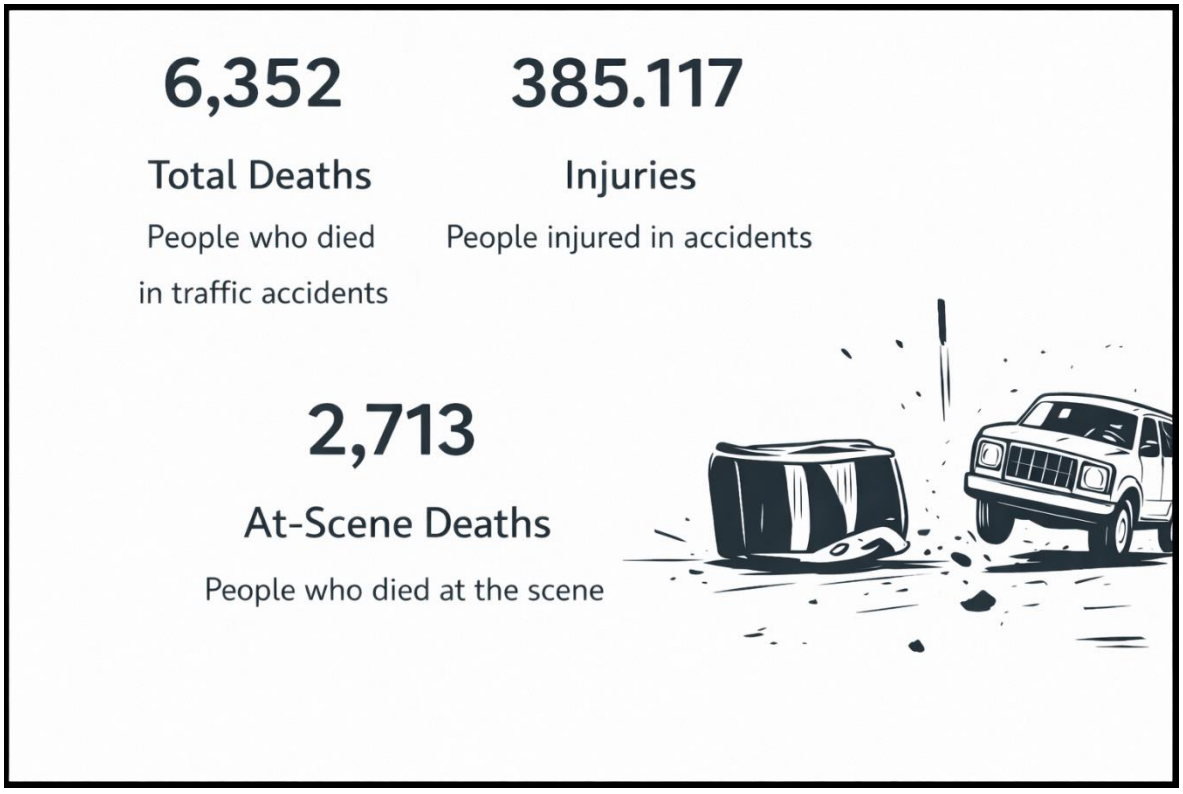
This understanding moves road traffic safety beyond the realm of individual responsibility and reveals the necessity of a transformative public policy vision that integrates structural measures to be taken at the system level.

2.1. Traffic Accidents in Türkiye: Current Situation Analysis

Traffic accidents in Türkiye continue to constitute a serious public safety problem in terms of both their frequency and the fatalities and injuries they cause. According to the 2025 data of the Turkish Statistical Institute (TÜİK), a total of **1.444.027** traffic accidents occurred nationwide in 2024. Of these accidents, **1.177.172 resulted in property damage only, while 266.855 involved fatalities or injuries** (TÜİK, 2025).

“Traffic accidents do not occur by coincidence; they are mostly based on human factor-related errors” (Kavsıracı, Arslan, & Tine, 2022, p. 9). Among the faults leading to traffic accidents in Türkiye, **driver errors rank first with a rate of 90.1%** (TÜİK, 2025). This rate demonstrates that **human behaviors, levels of cognitive awareness, and societal traffic culture** are the primary determinants rather than infrastructure deficiencies. At this point, **a permanent solution is possible** not only through technical measures or punitive regulations but also **through an educational and cultural transformation that prioritizes permanent behavioral change**.

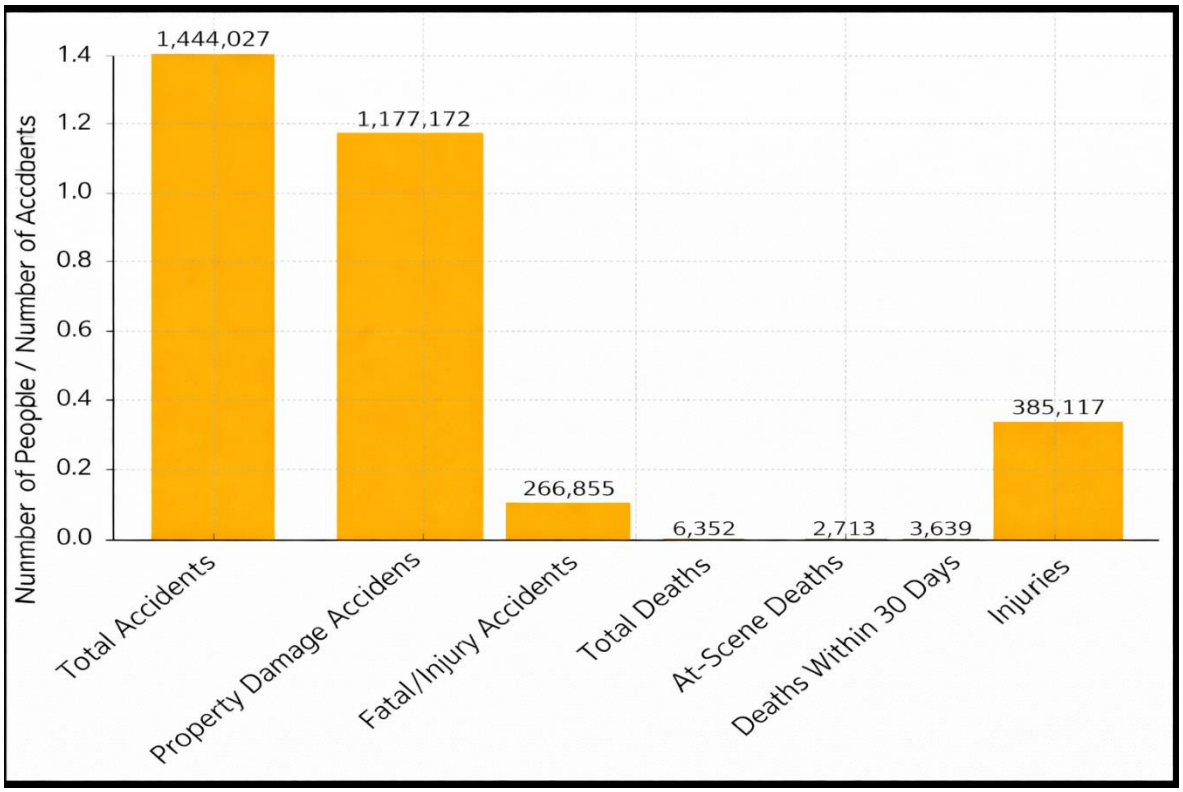
Figure 2: Accident Statistics and Trends



Prepared using TÜİK (Turkish Statistical Institute) 2025 data.

These data reveal that road safety must be managed not only through immediate measures but also through sustainable behavioral and structural policies. Throughout the year, **traffic accidents resulted in the loss of 6.352 lives, with 385.117 individuals injured**. Among the fatalities, **2.713 occurred on-site, while 3.639 passed away within 30 days following their transfer to a healthcare facility** due to the effects of the accident. Accordingly, **an average of 731,1 injury accidents, 17,4 fatalities, and 1.055,1 injuries occurred daily** (TÜİK, 2025).

Figure 3: Current Situation Analysis

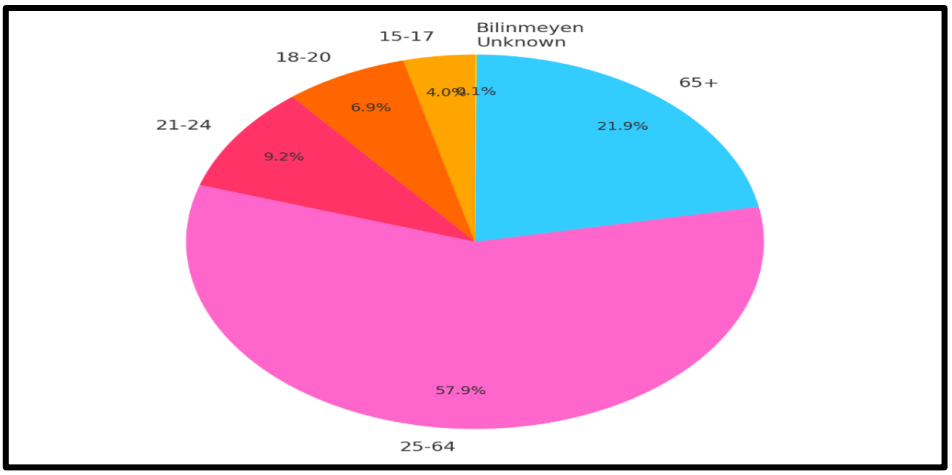


Prepared using TÜİK (Turkish Statistical Institute) 2025 data.

Over the past ten-year period, a total **of 62.762 people have lost their lives, and 3.024.470 people have been injured** as a result of road traffic accidents in Türkiye. These data demonstrate that traffic safety has long been a serious public health and public security issue nationwide. An examination of the spatial distribution of accidents reveals that **85,5% of fatal and injury accidents occur within residential areas, while 14,5% occur outside residential areas** (TÜİK, 2024). These rates indicate that driving practices, especially in urban areas, become riskier under traffic density.

Time-dependent analyses are also noteworthy: **65,3% of fatal and injury accidents that occurred in 2024 took place during daytime hours** (TÜİK, 2025). This rate suggests that road traffic safety policies need to be redesigned not only for nighttime travel but also for driving behaviors during daytime hours when traffic density is high. The 2024 Türkiye traffic accident data show remarkable differences in the age and gender distribution of individuals who lost their lives in traffic accidents. The following graphs visualize these differences in order to illustrate the mortality rates by age group and gender.

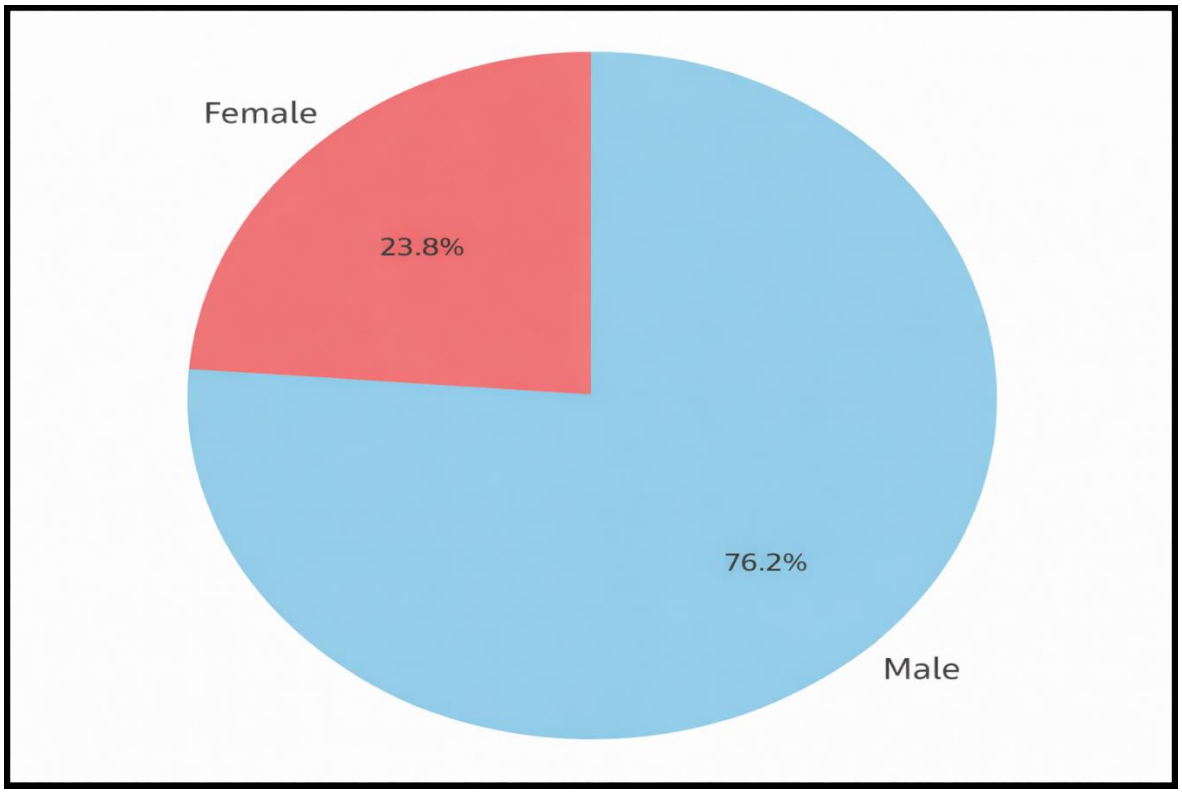
Figure 4: Distribution of Deaths by Age Groups



Prepared using TÜİK (Turkish Statistical Institute) 2025 data.

The age group with the highest number of traffic accident-related fatalities is 25-34. This group is followed by the 18-24 and 35-44 age groups. This distribution indicates that young and middle-aged groups are more exposed to traffic risk due to being active vehicle users. On the other hand, while the total number of cases among elderly groups (65 and over) is lower, it is observed that they are more vulnerable to fatal outcomes following an accident.

Figure 5: Distribution of Fatalities by Gender



Prepared using TÜİK (Turkish Statistical Institute) 2025 data.

According to the gender-based distribution, approximately 76% of those who died in traffic accidents are male, while 24,0% are female. This difference is associated with the fact that men are more frequently present in traffic as drivers, travel longer distances, and in some cases exhibit more risky driving behaviors. Women, on the other hand, are often in the position of passengers or have lower fatality rates due to generally more cautious driving styles.

2.1.1. Public Policy Stakeholders

Road traffic safety should be considered as a multi-actor and multi-level public policy domain. In this context, it is critically important for all relevant institutions and organizations to act in coordination in order to develop effective and sustainable intervention mechanisms for solving problems. In Türkiye, there are numerous stakeholders that possess direct or indirect duties and authorities related to road traffic safety. Below is an exemplary national-level classification of these stakeholders. This structure may be expanded over time as needed.

Universities undertake strategic roles in the production of scientific knowledge and evidence-based policy development processes. In this regard, Karabük University contributes to road traffic safety in line with the principle of the “Science-Centered University,” producing scientifically grounded reports and policy recommendations under the coordination of the Public Policy Research and Development Center (KAPGEM) and the Security Policies Unit. The contribution of universities to such multi-stakeholder areas is of

great importance, particularly in terms of education, awareness, data analysis, and social impact assessments.

Among **central administration institutions**, the Ministry of Interior, the General Directorate of Security, and the General Command of Gendarmerie primarily contribute through law enforcement and field inspection activities related to traffic safety. These units are key stakeholders in terms of the implementation of norms regulating driver behavior, the deterrence of penalties, and post-incident responses.

The Ministry of Transport and Infrastructure and its affiliated institutions are responsible for ensuring the safety of road infrastructure, determining road construction and maintenance standards, and promoting intelligent transportation systems. Considering the decisive impact of road quality on traffic safety, the technical responsibility of this stakeholder group is significant.

The Ministry of National Education holds responsibilities such as instilling traffic awareness at an early age, developing traffic education programs in schools, and supervising driver training centers. Within the framework of lifelong learning, public-oriented traffic education initiatives are also among the major functions of this ministry.

The Ministry of Health is a stakeholder through its units responsible for the coordination of initial medical response to traffic accidents, rehabilitation processes, and studies on the psychosocial dimensions of aggressive driving behaviors.

Municipalities, in accordance with the Municipality Law No. 5393, are responsible and authorized institutions in the implementation of local traffic regulations. The installation of signaling systems, arrangement of pedestrian crossings, management of urban traffic flow, and public transportation integration fall within this scope.

Civil society organizations and **the private sector** provide support particularly through awareness-raising campaigns, corporate social responsibility projects, and alternative educational models. In this context, media organizations also play a significant role in building a culture of safe traffic.

Table 1. Road Traffic Safety Stakeholders in Turkey

Stakeholder Group	**Institutions / Units**
Universities	University, Council of Higher Education, Transportation and Traffic Programs
Scientific Centers	KAPGEM, Scientific Competition Coordinatorships (e.g., SocialFest)

Stakeholder Group	Institutions / Units
Central Administration	Ministry of Interior, General Directorate of Security, General Command of Gendarmerie
Transport and Infrastructure	Ministry of Transport and Infrastructure, General Directorate of Highways
Educational Institutions	Ministry of National Education: Basic Education, Secondary Education, Vocational Education, Lifelong Learning Units
Health Institutions	Ministry of Health: Public Health, Mental Health, Emergency Health Services
Local Governments	Metropolitan, provincial, district, and town municipalities
Civil Society and Private Sector	NGOs, insurance companies, driving schools, media organizations

2.1.2. Regulations in the Traffic Law Regarding the Prevention of Dangerous and Aggressive Driving

The Highway Traffic Law, enacted to ensure safety in traffic and to regulate driver behavior, sets forth various rules concerning traffic order under Part Six, titled *Traffic Rules*, and prescribes the sanctions to be imposed in the event of violations of these rules (Highway Traffic Law [KTK], 1983, Articles 46–80).

Under *Speed Regulations*, the determination of maximum speed limits for each type of road aims both to enhance driving safety and to prevent potential accidents. In this context, administrative fines are imposed on drivers who exceed speed limits, and in certain circumstances, driving licenses may be temporarily confiscated (KTK, 1983, Article 51).

With regard to aggressive driving behaviors, maneuvers that endanger the safety of other drivers—such as sudden lane changes, tailgating, or abrupt braking—are prohibited within the framework of traffic etiquette and general safety. Upon the detection of such behaviors, administrative fines are imposed on the drivers concerned (KTK, 1983, Article 56).

The Law prescribes several sanction mechanisms in cases of violations of the relevant traffic rules, including the imposition of administrative fines (KTK, 1983, Article 51), the demerit point system (KTK, 1983, Article 118–119), the suspension of driving privileges (KTK, 1983, Article 47), and the impoundment of vehicles (KTK, 1983, Article 26). The fundamental purpose of these sanctions is to improve road safety through deterrence.

Regarding the rights of pedestrians, drivers and riders should give way to pedestrians waiting to cross and must give way to pedestrians on zebra crossings. Violation of this rule is punishable by fines (KTK, 1983, Article 68). The use of traffic enforcement cameras at crosswalks is further recommended to improve compliance and safety.

2.2. Environmental Impact Assessment of Traffic Accidents

Traffic accidents not only result in the loss of life and property but also constitute a significant problem due to their environmental impact. Particularly in areas where traffic accidents occur at high intensity, fuel leaks from vehicles as a result of accidents, the release of chemical substances into the environment, and waste generated during debris removal cause environmental pollution. These consequences damage natural habitats while also adversely affecting water, soil, and air quality.

Furthermore, the disruption of traffic flow in areas where accidents occur can increase carbon emissions, leading to air pollution. The vehicles and equipment used during debris removal and repair processes following traffic accidents create additional energy consumption and environmental burden, thereby exerting an indirect impact on climate change.

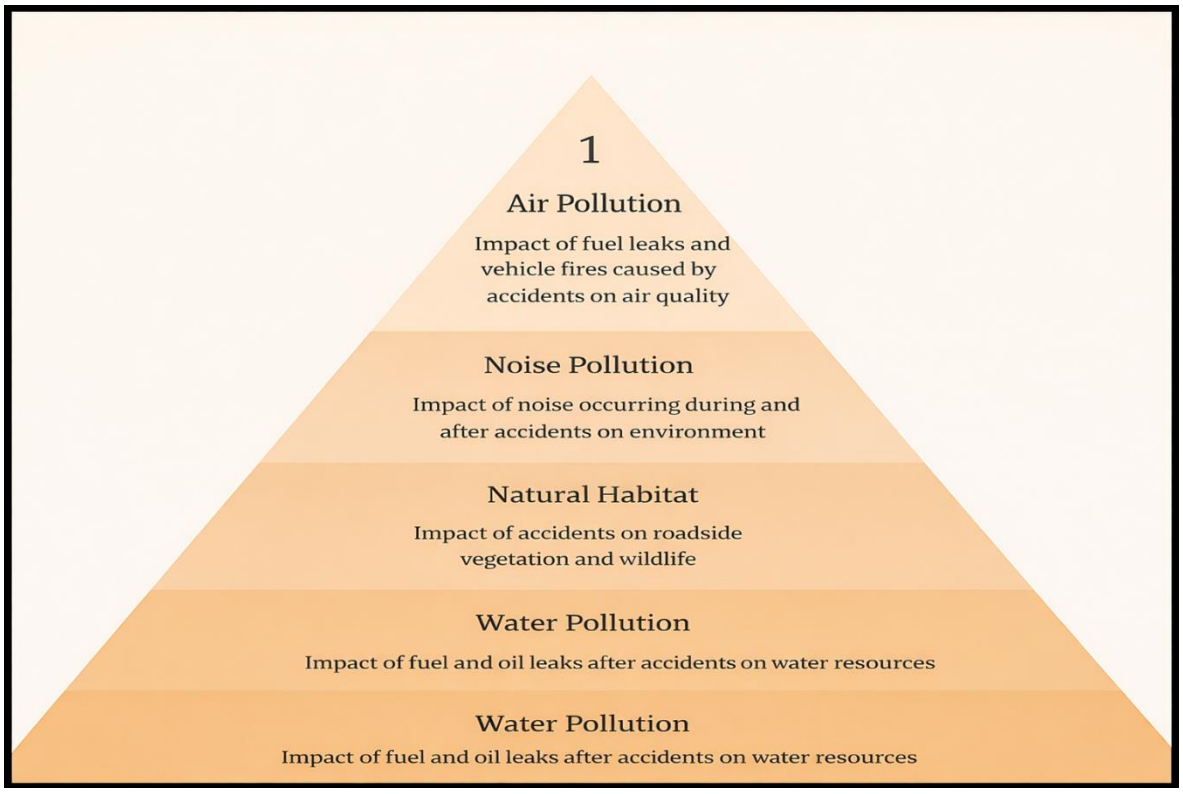
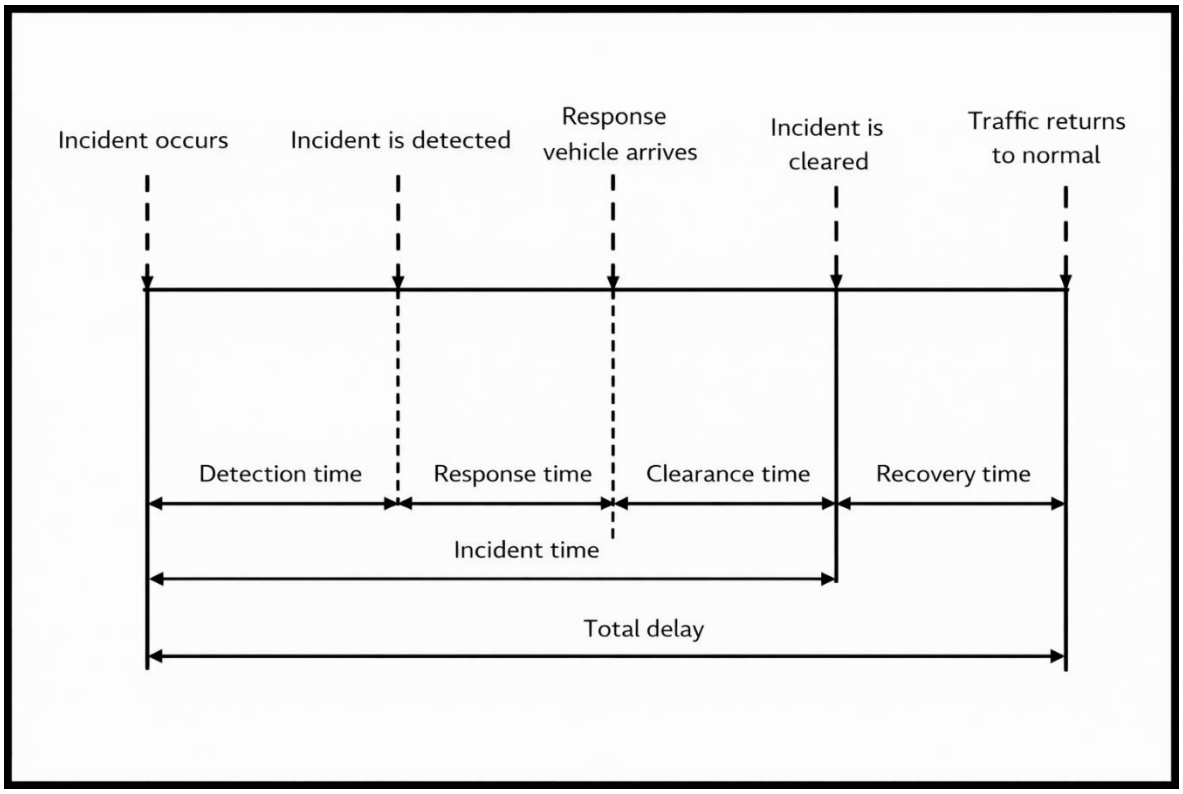


Figure 6: Environmental Impact Assessment of Traffic Accidents

Traffic accidents disrupt and affect normal traffic flow and, in addition, increase the likelihood of secondary accidents (Boz & Özen, 2024, p. 660). This chain of consequences jeopardizes the safety of emergency response teams, motorists and road users, thereby adversely affecting travel safety, trade, and the performance of transportation systems (Boz & Özen, 2024, p. 660). Through the effective management of traffic incidents, it is possible to use human, institutional, mechanical, and technical resources in a systematic, planned, and coordinated manner, thereby reducing the environmental impact of traffic accidents (Boz & Özen, 2024, p. 660)[2].

Figure 7: Stages of Traffic Accident Management



Source: (Boz & Özen, 2024, p. 661)

Road traffic safety projects to be implemented can contribute not only to enhancing human safety but also to mitigating such environmental impacts. Infrastructure improvements and sustainable traffic solutions will minimize adverse effects on the environment while supporting the strengthening of regional environmental policies.

[2] In the aforementioned study, traffic incidents are defined in a manner that encompasses all unexpected roadway conditions that disrupt normal traffic flow. In the present study, however, traffic incidents are specified as traffic accidents.

2.3. “Traffic Bullying” as a Form of Bullying

The absence of a legal definition of traffic bullying hinders both the recognition of such behavior and efforts to combat it. For this reason, defining traffic bullying and increasing public awareness of this phenomenon will facilitate the fight against it.

2.3.1. The Concept of Bullying

Traditionally, bullying is defined as aggressive behavior—physical, psychological, or verbal—that causes fear, anxiety, or pain; involves an imbalance of power between individuals and the victim’s difficulty in self-protection; occurs without any provocative action by the victim; and is characterized by repetition (Farrington, 1993, p. 384; Olweus, 1994, p. 1173).

In the literature, the concept of bullying was initially addressed primarily in the context of peer bullying among children in school settings (Olweus, 1994, p. 1171). Subsequently, it was examined within the frameworks of workplace mobbing (Ko et al., 2020, p. 1; Awai et al., 2021, pp. 75–76), aggressive behaviors among siblings (Wolke et al., 2015, p. 918; Brett et al., 2023, p. 1), aggressive behaviors among prisoners (Ireland, 2000, p. 201), and aggressive behaviors in digital contexts, namely cyberbullying (Alipan et al., 2020, p. 81).

The expansion of the concept beyond peer bullying has led to debates about its elements. In this context, it has been argued that repeated behavior may not be applicable to bullying behaviors in prison settings (Beck & Ireland, 1995, cited in Ireland, 2000, p. 202). Similarly, it has been noted that repeated behavior differs in cyberspace from the traditional definition of bullying, and that even a single post accessible to everyone could be considered bullying (Alipan et al., 2020, p. 88; Slonje & Smith, 2008, pp. 153-154; Volk et al., 2014, pp. 334-335).

2.3.2. The Concept of Traffic Bullying

The frequent occurrence of aggressive behaviors in traffic has led to the examination of such behaviors under specific conceptual frameworks. In this regard, the terms aggressive driving and road rage are commonly used in the literature to describe aggressive behaviors in traffic.

Aggressive driving refers to intentional behaviors that increase the risk of accidents—such as speeding or failing to yield the right of way—arising from a driver’s impatience or anger toward other road users. These behaviors may also include actions that, while not intended to cause harm, aim to disturb other road users, such as flashing headlights or repeatedly honking the horn (Tasca, 2000, pp. 9–10). Road rage, on the other hand, denotes a much more severe form of aggression in which a road user deliberately acts against another road user, potentially resulting in property damage, injury, or death. Such acts of aggression may constitute criminal offenses (Elliott, 2000, p. 59).

It should be noted that these concepts describe only a specific subset of aggressive acts in traffic. They do not encompass aggressive acts directed at the environment or at individuals who are not road users but are nonetheless affected by traffic (e.g., a person living in a

house by the road). Therefore, there is a need for an overarching term that can encompass both these behaviors and other forms of aggression.

To meet this need, the concept of “traffic bullying” may be employed as an overarching term. Indeed, aggressive behaviors in traffic also embody the elements of bullying to the extent that their nature corresponds. For instance, the element of repeated behavior does not manifest in traffic as repeated aggressive acts by the same bully over time in the traditional sense; rather, it materializes through different aggressive behaviors committed by different bullies throughout the course of a single journey. In such cases, an individual may be exposed to numerous aggressive acts by multiple perpetrators, which supports the applicability of the repetition element. Moreover, given the lack of consensus on the frequency required for behaviors to be labeled as bullying and the acceptance of varying frequencies such as weekly or occasional occurrences (Cowie et al., 2002, pp. 35–36; Goldsmid & Howie, 2014, p. 211) it would not be accurate to conclude that behaviors encountered perhaps several times a day in traffic are not repetitive.

In this context, for example, when a driver with a faster vehicle persistently flashes their headlights or honks at another driver traveling at a normal speed “to get out of the way”, the elements of traffic bullying would materialize as follows:

• **Physically, psychologically, or verbally aggressive behavior that instills fear, anxiety, or pain:** Persistently flashing headlights or honking,

• **Power imbalance between individuals and the victim's difficulty in defending themselves:** The driver's inability to avoid being subjected to these behaviors,

• **Absence of provocation by the victim:** The individual is subjected to aggressive behavior despite traveling at a normal speed permitted by traffic conditions.

The term “traffic bullying” has been examined in a limited number of studies. In this regard, Faqihi defines traffic bullying as “all the barbaric, physically harmful, and visually distorted traffic behaviors that we see in our streets in the morning and evening without strong deterrence from the authorities responsible for traffic safety” (Faqihi, 2018). According to the researcher, behaviors constituting traffic bullying include dangerous overtaking, not staying in the designated lane, cutting off other vehicles, excessive use of the car horn for insulting purposes, forcing another vehicle to speed up by getting excessively close or flashing headlights. Similarly, Saleh addresses traffic bullying in the context of aggressive behaviors directed at women in traffic, defining it as “all unsafe and disturbing traffic behaviors by men toward female drivers, such as exceeding speed limits, failing to comply with lane rules, disturbing through honking and vehicle lights, and insulting through words or gestures” (Saleh, 2023, p. 102).

In this study, it is considered that "traffic bullying" encompasses “intentional verbal, physical, or behavioral aggressive acts committed by road users against other road users, the nature, or individuals who are not road users but are nonetheless affected by traffic”.

Within this framework, behaviors considered as traffic bullying and their corresponding legal equivalents are listed below for the purpose of serving as a basis for legal regulation:

Table 2. Legal Implications of Traffic Bullying

Traffic Bullying Behaviors	Legal Implications
Operating a vehicle significantly above or below the speed limit	Driving at speeds significantly above or below the minimum or maximum speed limits established by the relevant legislation.
Playing loud music or producing excessive exhaust or engine noise within residential areas	Causing noise through music, exhaust, or engine sounds in a manner that disturbs public peace and tranquility within residential areas
Insulting or threatening through verbal expressions or physical behaviors	Verbally insulting or threatening other road users, or displaying bodily gestures for such purposes
Committing physical assault	Intentionally injuring other road users or damaging their property
Failure to yield the right of way	Failing to yield the right of way at intersections, traffic lights, or pedestrian crossings
Failure to yield to an emergency vehicle.	Failing to yield the right of way to an authorized emergency vehicle (e.g., police, fire, ambulance)
Unauthorized use of flashing lights or sirens	Unauthorized installation of emergency warning lights or sirens to obtain right-of-way
Unsafe lane changing (Slalom driving)	Driving through traffic in an S-shaped pattern between vehicles in violation of lane-change rules.
Tailgating	Following a leading vehicle at a dangerously close distance without maintaining a safe following distance
Sudden braking	Suddenly decelerating while driving in normal traffic flow.
Continuous occupation of the left lane	Continuously using the far-left lane on multi-lane roads instead of the lane appropriate to the vehicle’s speed
Participation in or proposal of an unauthorized motor vehicle race	Violating speed limits or other traffic rules solely for competitive purposes or inviting another driver to engage in such behavior

Intentional violation of exhaust emission standards	Deliberately operating a vehicle in a manner that emits excessive black smoke and causes severe environmental pollution
Persistently honking or flashing headlights	Persistently honking or repeatedly turning headlights on and off to disturb a driver proceeding in traffic in accordance with regulations
Unauthorized use of the emergency lane	Driving in the emergency lane except in situations threatening driving safety or in legally authorized circumstances
Blocking or obstruction of traffic	Stopping moving land transport vehicles or preventing their movement through coercion or threat.
Drifting (intentional loss of traction)	Deliberately and intentionally causing a vehicle to abruptly change direction or spin by using the handbrake or other methods on public roads without necessity

2.3.3. Sanctions for Acts of Traffic Bullying

We argue that a new section titled "Traffic Bullying" should be added to Law No. 2918, the Highway Traffic Law, to primarily regulate these acts as misdemeanors and subject them to administrative sanctions. This is because such acts fundamentally violate traffic order. Moreover, considering that certain acts significantly increase accident risk, we are of the opinion that criminal sanctions should also be imposed for such acts.

In this context, acts such as committing physical assault in traffic, failing to yield to an emergency vehicle, unsafe lane changing (Slalom driving), participation in or proposal of an unauthorized motor vehicle race, and operating a vehicle significantly above or below the speed limit must be prevented with criminal sanctions in addition to misdemeanor penalties. However, at this point, the provision of Article 15/3 of the Law on Misdemeanors and the rules on concurrence of offenses must be taken into account. According to this provision, if an act constitutes both a crime and a misdemeanor, sanctions can be applied only for the crime. Therefore, an additional regulation is needed in this context to allow the application of *separate* administrative sanctions due to the act's misdemeanor nature (Akbulut, 2022, p. 500).

Furthermore, the commission of all such acts during nighttime hours should be considered an aggravating circumstance. This is because factors such as insufficient lighting, headlight glare, or drowsiness—which reduce attention—significantly amplify the negative impact of these behaviors on drivers and markedly increase the likelihood of traffic accidents.

At the same time, where traffic bullying constitutes repetitive behavior, it is considered beneficial to initiate psychosocial evaluation processes for the drivers exhibiting such conduct, to refer them to rehabilitation programs, and to temporarily suspend their driving licenses during this process.

2.3.4. The Importance of Media in Combating Traffic Bullying

We would like to emphasize that the media will play a very crucial role in combating traffic bullying. Research demonstrates that aggressive behaviors observed through the media influence individuals exposed to this violence via media channels. For example, in their studies, Bushman and Huesmann observed that exposure to violence through media significantly increases aggressive behaviors in individuals (Bushman & Huesmann, 2006, p. 351). Another study reported that increased exposure to violence in media leads to higher aggression levels, individuals begin to fear their surroundings and tend to take various measures such as carrying weapons, become desensitized to violent incidents, and attempt to access more violent content (Donnerstein et al., 1994, cited in Dolu et al., 2010, pp. 58-59). For this reason, refraining from portraying acts constituting traffic bullying as sources of admiration in the media—and instead emphasizing the harmfulness and unacceptability of such acts—would make a substantial contribution to efforts aimed at combating traffic bullying.

2.3.5. Behavioral Intervention Through Media Content

In combating traffic bullying, the media, particularly through content in television series and films, has the capacity not only to raise awareness but also to exert direct behavioral modeling effects. Visual media content plays a decisive role in building role models, especially among young audiences. Therefore, the behavioral patterns in driving scenes featured in series and films directly influence the driving culture.

However, in many existing productions, characters who disregard traffic rules, engage in aggressive driving, harass others through headlight flashing or honking, are often portrayed as positive protagonists, and such behaviors are openly rewarded. This situation leads to the implicit legitimization of traffic bullying.

Guiding the media in a manner that supports public interest constitutes a critical policy area. Similarly, Kavsıracı (2018) emphasizes that platforms developed through collaboration among public institutions, civil society, and media in the field of highway traffic safety are effective in raising awareness through public service announcements, posters, school-based projects, and mass media. These tools are regarded as low-cost yet high-impact methods.

In efforts to combat traffic bullying, media—particularly through visual content such as television series and films, has not only an informative but also a directive influence. Such content serves as a powerful role model source in terms of imitation and internalization of behaviors. Consequently, the attitudes and driver behaviors exhibited in driving scenes on screen have the potential to directly shape the general driving habits and traffic culture of the society.

This role is also clearly defined in the strategy document prepared by the Ministry of Interior of the Republic of Türkiye:

> "In order to use the media, known as the most powerful and effective promotional tool for announcing road traffic safety culture to wider audiences in the public, the "Traffic Media Awards Project" was launched in 2019" (Ministry of Interior of the Republic of Türkiye, 2021, p. 22).

The same document emphasizes that initiatives conducted with media support have the potential to raise public awareness and contribute to road traffic safety efforts. This approach is not merely a policy recommendation, but an implementation realized with the highest level of state support. **Our President, Mr. Recep Tayyip Erdoğan** attended the **Traffic Media Awards** organized within the scope of the 2021–2030 Road Traffic Safety Strategy Document and Action Plan, explicitly supporting cultural interventions in this field. In his speech at the program, he stated, "We will continue working until we achieve our goal of zero loss of life, zero injuries, and zero property damage," strongly emphasizing the role media can play in highway traffic safety (Polis Dergisi, 2021).

In this context, the proposed public policy steps are as follows:

- **Regulatory intervention through RTÜK (Radio and Television Supreme Council):** Administrative sanctions should be imposed on television series, films, and digital content that include scenes promoting traffic bullying. Such scenes should be evaluated within the scope of content contrary to the public interest, similar to tobacco use, violence, and sexual content.
- **Incentives for positive content:** An incentive system should be established for producers of productions featuring characters who model ethical driving behaviors, act patiently and in accordance with the rules. In cooperation with the Ministry of Culture and Tourism and RTÜK, ethical traffic-themed script competitions, funding support, and increased visibility should be provided.
- **Dramatization of bullying behaviors:** Short film projects that dramatize the consequences of traffic bullying and encourage empathy should be supported, and these contents should be broadcast on television, digital platforms, and in public service announcement formats.

These measures will enable the reproduction of positive norms related to traffic ethics through visual media, offering protective behavioral patterns for broad audiences, particularly children and young people. This approach, which strengthens ethical driving not only through education but also through cultural representation, serves as a complementary media dimension of highway traffic safety policies.

3. VISIBILITY (Public Relations Activities)

Raising social awareness against traffic bullying is one of the most effective tools for preventing such behaviors. Awareness campaigns aim to reach broad segments of society in order to increase individual consciousness and strengthen collective responsibility

regarding highway traffic safety. In this context, the consequences of traffic bullying should be emphasized through education and information campaigns, and the negative impacts of dangerous driving behaviors should be clearly communicated to the public. Promoting safe behaviors in traffic can be achieved by increasing user awareness and enhancing compliance with traffic rules. “For this reason, the integrated implementation of education, awareness campaigns, and enforcement activities is of great importance in preventing traffic accidents” (Kavsıracı, Arslan, & Tine, 2022, p. 48). Public service announcements prepared for television, radio, and social media platforms can convey concrete messages demonstrating how traffic accidents can be prevented.

Activities addressing all segments of society are particularly important for raising awareness among young drivers. Social media campaigns, as a necessity of the digital age, can reach large audiences with effective content designed to attract the attention of younger populations. Informative graphics, short videos, and interactive applications on traffic bullying can be developed to increase individuals’ level of knowledge on the subject.

In awareness campaigns, cooperation with stakeholders such as non-governmental organizations, local governments, and public institutions is also essential. The participation of well-known public figures in these campaigns can help messages reach wider audiences and create effective awareness. In addition, encouraging local participation through the establishment of volunteer groups at the neighborhood level can enhance individuals’ awareness of their roles and responsibilities in traffic.

Finally, organizing competitions and events related to highway traffic safety can encourage society to take a more active role in this matter. Such activities will not only raise awareness but also support the internalization of a highway traffic safety culture These awareness efforts encompassing all segments of society will be a powerful tool in preventing traffic bullying.

" Education to Combat Traffic Bullying " emphasizes that the driver's license acquisition process is more than just a period of gaining driving skills; it is an opportunity to lay the foundation for road traffic safety consciousness. During this process, candidate drivers should be provided with comprehensive training on the importance of safe driving and the dangers of bullying driving behaviors. "Education, training, and information are indispensable elements of a comprehensive road traffic and road safety policy, traffic safety culture" (Süslü, 2021, p. 411). “Eliminating negative human behaviors, which constitute the primary factor in accidents, is therefore the most important issue in ensuring traffic safety, and this can be achieved through education” (Gökdağ & Atalay, 2015, p. 279). The knowledge that bullying driving leads to accidents, injuries, and loss of life will be a powerful tool to transform individuals’ behaviors in traffic.

“Public Relations Campaigns” should be implemented to make the societal impacts of traffic bullying visible and to raise awareness among individuals. These campaigns should emphasize the dramatic consequences of accidents and strikingly demonstrate how each action in traffic can affect the lives of others. The objective is to promote a responsible traffic culture and to achieve individual behavioral change.

“Media and Public Service Announcements” should be used as effective tools to raise awareness of the accidents and legal consequences that traffic bullying may cause. Public service announcements featuring striking visuals and strong messages can reach wide audiences through television and digital platforms, thereby enhancing public awareness. Such messages should emphasize the individual responsibility that every road user bears in ensuring traffic safety.

“Local Media Training Programs” can address road traffic safety at the community level and help draw public attention to this issue. Training initiatives targeting local media professionals may contribute to increased visibility of highway traffic safety in media content and to the development of broader societal awareness. Moreover, it is anticipated that traffic education initiated at an early age and sustained systematically will enhance both individual awareness and overall traffic safety (Gökdağ & Atalay, 2015).

“Celebrity Supporters” can enhance the effectiveness of road traffic safety messages by involving well-known and widely respected public figures in awareness campaigns. Public service announcements and social media content featuring celebrities constitute a powerful means of attracting attention, particularly among younger audiences. In this way, meaningful awareness can be fostered regarding the adoption of responsible driving behaviors.

Finally, “Interactive Content” offers an important opportunity to capture the interest of young people, particularly through events organized on social media platforms. Competitions, videos, and live broadcasts themed around road traffic safety can contribute to raising young individuals’ awareness by combining educational and engaging elements. Consequently, road traffic safety messages can reach a wider audience, thereby enhancing their overall impact.

4. PUBLIC POLICY ON HIGHWAY TRAFFIC SAFETY: NATIONAL GOAL: ROAD SAFETY

The “National Road Safety Goal” policy is proposed as a comprehensive national strategy aimed at reducing loss of life and property resulting from traffic incidents. This approach aims to mobilize all stakeholders around a shared objective in order to enhance social welfare and promote a sustainable understanding of highway traffic safety.

Within the “Legal and Regulatory Framework” the policy introduces clear definitions of traffic bullying and establishes a comprehensive sanctioning framework including deterrent administrative penalties, mandatory psychosocial assessments, and criminal sanctions including imprisonment in cases involving extreme risk to public safety.

Recognizing the critical role of technological infrastructure, the section titled “Technological Support and Enforcement Mechanisms” emphasizes the widespread deployment of contemporary enforcement tools, including camera systems, the promotion of in-vehicle cameras, and the use of sensor-based monitoring technologies. Furthermore, under the heading “Technological Solutions and Intelligent Transportation Systems,” the policy seeks to enhance highway traffic safety through innovative applications such as speed detection systems, smart traffic signals, and mobile traffic safety applications.

The policy also incorporates “Social and Psychological Support Programs” designed to facilitate behavioral change among drivers. These programs include a wide range of interventions, such as anger management training, behavioral therapy programs, virtual reality–based simulations, and family counseling services. This multidimensional approach seeks to address the underlying social and psychological factors contributing to traffic bullying behaviors.

Measures aimed at enhancing drivers’ knowledge and awareness are addressed under “Improving the Quality of Driver Education and Awareness”. Key initiatives in this area include the expansion of pre-license and license renewal training programs, the implementation of nationwide media campaigns, and the integration of highway traffic safety education into school curricula at various educational levels.

The section titled “Strengthening Traffic Enforcement” outlines measures such as increasing the number of mobile enforcement units and enhancing violation detection through the use of drones and advanced camera systems. Physical and infrastructural interventions are addressed under “Road and Environmental Arrangements,” with a focus on the development of smart road signage, safe pedestrian crossings, and dedicated bicycle lanes.

Finally, under the heading “Traffic Bullying Statistics and Reporting,” the systematic collection and analysis of data are emphasized as essential instruments for evidence-based and strategic decision-making in highway traffic safety policy. The financial dimension of the policy is addressed under “Economic Incentives and Sanctions,” which includes mechanisms such as tax reductions, corporate incentives, and financial penalties designed to promote safe driving behavior and deter traffic bullying.

4.1. Legal and Regulatory Framework

One of the most significant challenges in the application of the offense of endangering traffic safety under Article 179/3 of the Turkish Penal Code lies in the requirement to establish the existence of a concrete danger. As consistently emphasized in the jurisprudence of the Court of Cassation, mere violations of traffic rules are insufficient for the formation of this offense; rather, it must be clearly demonstrated in each individual case that the conduct in question has created an actual and tangible risk (Önok, 2015, p. 168). This requirement due to the ambiguity of expressions such as “being unable to safely operate and control a vehicle for another reason,” which are open to broad interpretation. Such indeterminacy **jeopardizes legal certainty** and the predictability of legal norms. Moreover, inconsistencies in judicial interpretations as to whether driving without a license or with a revoked license constitutes a criminal offense per se (Önok, 2015, p. 170) further contribute to uncertainty in the criminal prosecution of conduct that deliberately endangers traffic safety. Within this context, it has become imperative to establish a clear criminal and administrative framework that explicitly defines and regulates behaviors which **intentionally and systematically endanger the life and property of other road users**, herein conceptualized as **“traffic bullying”.**

At present, **Turkish Highway Traffic Law** No. 2918 regulates traffic safety through a range of provisions, including speed limits (Art. 50), administrative fines (Art. 51), the

prohibition of dangerous driving maneuvers (Art. 56), the penalty point system (Arts. 118–119), the temporary suspension of driving licenses (Art. 47), the removal of vehicles from traffic (Art. 26), and the protection of pedestrian rights (Art. 68). However, the effectiveness of this regulatory framework depends not merely on its formal existence, but on its clarity, internal consistency, and practical enforceability. Accordingly, punitive measures should be systematically reinforced through technology-supported enforcement mechanisms and sustained public awareness campaigns in order to strengthen compliance with traffic rules and promote safer driving behavior. Furthermore, behaviors constituting traffic bullying should be explicitly incorporated into the legal system through clear, objective, and behavior-based definitions. Conduct such as deliberate lane violations, tailgating, vehicular harassment, persistent misuse of right-of-way, and systematic non-compliance with traffic regulations should be regulated either as a distinct criminal offense or, at a minimum, as conduct subject to administrative sanctions under a dedicated **"traffic bullying"** category.

Introducing **a dedicated "Traffic Bullying" section within Law No. 2918** would significantly enhance normative clarity and reduce the risk of arbitrary interpretation by enforcement authorities. Such a regulatory approach would establish a direct and transparent link between the perpetrator's conduct and the societal danger it creates, while remaining consistent with the principle of criminal law as a measure of last resort (ultima ratio). Furthermore, it would enable the systematic identification and monitoring of behaviors that fundamentally threaten traffic safety and facilitate the establishment of a proportionate, predictable, and rule-of-law-compliant sanctioning framework.

Introducing a specific "Traffic Bullying" section within Law No. 2918 would enhance normative clarity and reduce the risk of arbitrary interpretation by enforcement authorities. Such an approach would establish a more direct and visible link between the perpetrator's conduct and the societal danger it creates, while respecting the principle of criminal law as a measure of last resort (ultima ratio). Moreover, it would allow for systematic monitoring of behaviors that fundamentally threaten traffic safety and facilitate the development of a proportionate and predictable rule-of-law-compliant sanctioning system.

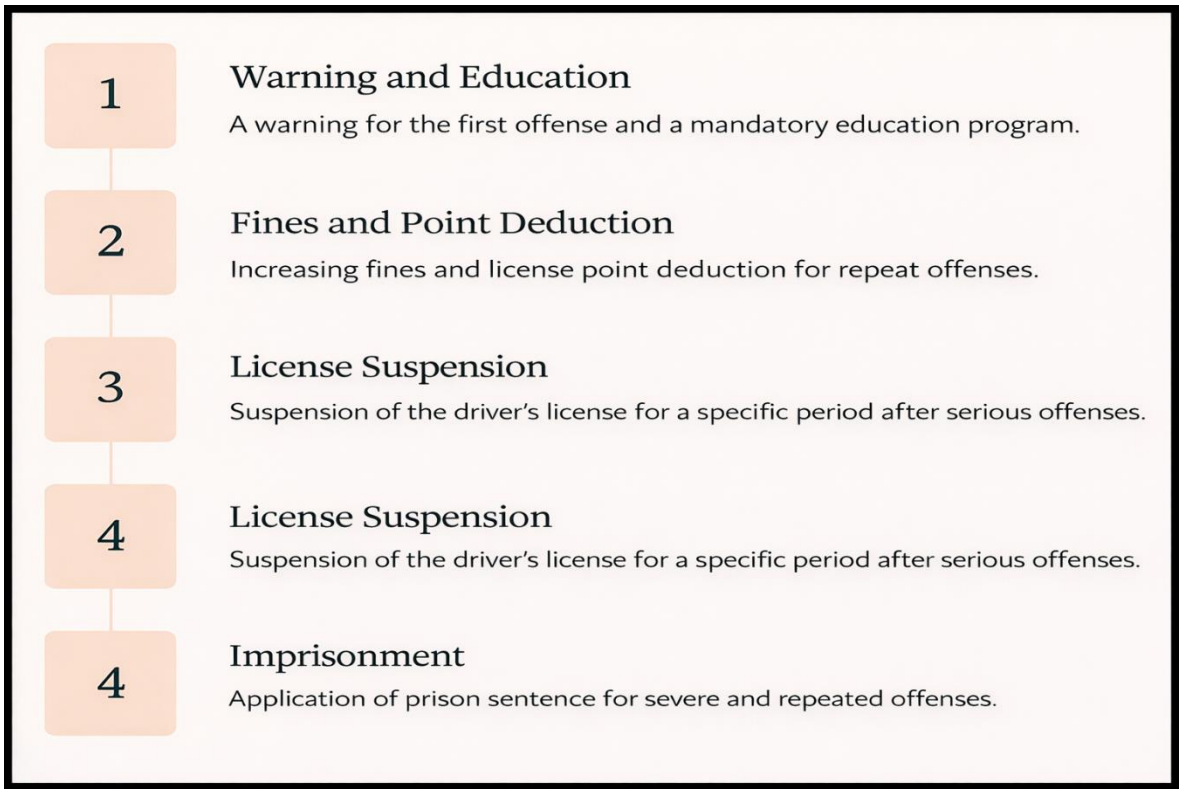
From a preventive policy perspective, strengthening the deterrent effect of sanctions and addressing traffic bullying through a graduated and proportionate legal response is of critical importance. Drivers who repeatedly engage in traffic bullying behaviors should be subjected to mandatory psychosocial assessment procedures, with potential consequences ranging from license suspension and revocation to compulsory participation in rehabilitation programs. In cases involving particularly dangerous and intentional conduct that poses a serious threat to public safety, the imposition of custodial sentences would substantially enhance the deterrent capacity and credibility of the legal system. Accordingly, the proposed penalty framework for traffic bullying is structured around the following core components:

New Criminal Sanctions: Establishment of specific, clearly defined, and deterrent penalties tailored to traffic bullying behaviors.

Psychosocial Assessment: Mandatory psychological evaluation of repeat offenders, coupled with the integration of psychometric testing into the driver licensing and renewal processes.

Imprisonment: Imposition of custodial sentences in cases involving extremely dangerous and intentional traffic bullying conduct that poses a serious threat to public safety.

Figure 8. Graduated Sanctioning Framework for Traffic Bullying



4.2. Technological Support and Enforcement Mechanisms

It is recommended that technology-oriented solutions be developed to enable the real-time detection, recording, and evaluation of traffic violations. In this regard, technology-supported traffic systems facilitate the development of more inclusive and integrated solutions that encompass not only motor vehicles but also pedestrians and public transportation users (Aslan Yıldırım & Akkurt, 2015, p. 428).

The widespread deployment of camera systems at intersections and major arterial roads is expected to enhance deterrence by enabling the immediate detection of traffic violations and the swift enforcement of penal sanctions. Furthermore, promoting the use of in-vehicle cameras in private vehicles may contribute to heightened individual awareness among drivers while simultaneously providing objective and verifiable evidence in cases of traffic accidents or violations. In addition, the effective utilization of sensor-based monitoring systems in urban areas, in conjunction with mobile traffic enforcement units, constitutes a critical component of continuous supervision aimed at improving overall highway traffic safety.

- **Camera Systems:** Expanding the deployment of camera systems at intersections, highways, and major arterial roads to enhance monitoring and enforcement capacity.
- **In-Vehicle Cameras:** Promoting the voluntary adoption of in-vehicle camera systems in private vehicles as a supplementary tool for evidence collection and deterrence.
- **Real-Time Enforcement Systems:** Utilizing sensor-based monitoring technologies and mobile traffic enforcement units, particularly in urban areas, to enable real-time detection of violations and rapid intervention.

On the other hand, it is emphasized that alleviating traffic congestion solely through the construction of new roads is no longer sufficient. Accordingly, "software-based solutions in transportation planning, alternative route analysis, and data-driven decision-making processes are increasingly coming to the forefront" (Aslan Yıldırım & Akkurt, 2015, p. 428).

4.3. Social and Psychological Support Programs

Traffic bullying predominantly stems from deficiencies in anger management, maladaptive social habits, and impaired impulse regulation. Accordingly, this policy dimension is designed to address the underlying psychological and social determinants of such behaviors through structured individual and collective interventions. Anger management programs and evidence-based behavioral therapies aim to mitigate impulsive and aggressive tendencies, while group therapy sessions provide a supportive environment in which individuals facing similar challenges can share experiences, develop empathy, and internalize social responsibility.

In addition, virtual reality (VR)–based interventions are proposed as innovative tools to simulate high-risk traffic scenarios, thereby fostering experiential learning, empathy, and risk awareness among drivers. Family counseling programs further complement these interventions by addressing the broader social consequences of traffic bullying, particularly its adverse spillover effects on family relationships and social integration. Within this framework, the following intervention mechanisms are proposed:

Anger Management Programs: Mandatory referral of drivers engaging in traffic bullying behaviors to psychosocial support programs aimed at improving anger control and emotional regulation.

Behavioral Therapy and Rehabilitation: Compulsory participation in specialized behavioral therapy and rehabilitation programs for drivers exhibiting repeated or persistent bullying behaviors.

Group Therapy Sessions: Facilitated group-based interventions enabling drivers with similar behavioral patterns to exchange experiences, develop mutual understanding, and reinforce pro-social norms.

Virtual Reality Applications: Implementation of VR-based simulations of hazardous driving scenarios to enhance empathy, situational awareness, and behavioral self-regulation.

Family Counseling: Provision of counseling services to address the impact of traffic bullying on family relationships and broader social cohesion.

Social Responsibility and Community Service Programs: Imposition of community service obligations by judicial authorities as an alternative or complementary sanction for traffic bullying offenses.

Neighborhood Volunteers: Establishment and training of community-based highway traffic safety volunteers to support awareness-raising and preventive activities at the local level.

School Programs: Formation of highway traffic safety clubs and the organization of awareness-raising activities in primary and secondary education institutions.

Civil Society Cooperation: Development and implementation of highway traffic safety initiatives in collaboration with local non-governmental organizations and civil society actors.

Figure 9. Traffic Bullying Rehabilitation Center

4.4. Technological Solutions and Intelligent Transportation Systems

Technological solutions and intelligent transportation systems (ITS) play a pivotal role in enhancing highway traffic safety and mitigating hazardous behaviors, including traffic bullying. Beyond their enforcement function, these systems contribute to both individual and collective traffic awareness while exerting a strong deterrent effect that promotes compliance with traffic regulations.

Adaptive technologies—such as automated speed detection systems and smart traffic signalization—support rule adherence while simultaneously optimizing traffic flow. Mobile applications that provide real-time traffic information enable drivers to make safer and more informed decisions. Collectively, intelligent transportation systems contribute to the prevention of accidents and violations by dynamically regulating traffic conditions in contemporary urban environments. Key components of this approach include:

Speed Detection Systems: Expansion of automated speed monitoring and penalty enforcement systems.

Smart Traffic Lights: Installation of adaptive signalization systems designed to optimize traffic flow.

Mobile Applications: Development of applications providing real-time traffic updates and guidance to encourage safe driving behavior.

4.5. Enhancing the Quality of Driver Education and Driver Awareness

One of the most fundamental and effective measures in combating traffic bullying is the systematic enhancement of driver education and awareness. Driver candidates should receive comprehensive instruction on traffic bullying, including its causes, behavioral patterns, and legal and social consequences. In Türkiye, where periodic driver's license renewal is not currently mandatory, this policy proposes a substantial expansion of both pre-licensing education and post-licensing refresher training. Prior to licensing, driver candidates should be provided with structured training focusing on ethical driving, anger management, and the broader societal implications of aggressive driving behavior. In addition, periodic refresher courses should be introduced to update the knowledge base of licensed drivers and reinforce safe driving norms. Public service announcements, sustained media campaigns, and the integration of highway traffic safety education into school curricula are essential for cultivating long-term societal awareness. Proposed measures include:

Pre-License Training: Comprehensive highway traffic safety and ethical driving education for driver candidates.

Periodic Refresher Training: Mandatory safe driving and awareness training for licensed drivers at regular intervals.

Public Service Announcements and Media Campaigns: Continuous, targeted campaigns aimed at reinforcing public awareness and responsible driving behavior.

School Curriculum Integration: Inclusion of compulsory highway traffic safety education at primary and secondary school levels.

4.6. Increasing Traffic Enforcement

Strengthening traffic enforcement is essential for establishing a safe, predictable, and orderly traffic environment. Increasing the number of mobile enforcement units will facilitate the rapid detection of violations, particularly in high-risk and high-density traffic areas. Drone surveillance and advanced camera-based monitoring systems further enhance enforcement capacity by enabling real-time detection and swift intervention against behaviors that disrupt traffic order. Key enforcement strategies include:

Mobile Enforcement Units: Expansion of mobile units, particularly in areas with high incidences of traffic bullying.

Technology-Supported Enforcement: Continuous monitoring and violation detection through drones and advanced camera systems.

Citizen Reporting Systems: Establishment of accessible platforms enabling citizens to report traffic bullying incidents.

4.7. Road and Environmental Design

Road and environmental design constitutes a critical physical dimension of highway traffic safety. Smart road infrastructure supports safe driving by delivering real-time information, while well-designed pedestrian and cyclist facilities enhance protection for vulnerable road users. These interventions aim to improve safety outcomes for all traffic participants. Proposed arrangements include:

Smart Road Signs: Deployment of variable message signs providing real-time information about traffic and weather.

Safe Pedestrian Crossings: Expansion of elevated, illuminated, and clearly marked pedestrian crossings.

Bicycle Lanes: Development of a safe bicycle lane network to promote sustainable urban mobility.

4.8. Traffic Bullying Statistics and Reporting

Robust data collection and reporting mechanisms are indispensable for evidence-based traffic safety policy. Comprehensive and systematic data on traffic bullying behaviors are required to identify behavioral patterns, assess risk factors, and design effective interventions. Within this framework, data collection, analysis, and dissemination are treated as an integrated and transparent process. The regular, systematic, and institutionally structured collection and analysis of data on traffic bullying constitute a critical step in understanding the underlying causes of such behaviors and in developing effective policy responses. The analytical reports generated through this process serve as an evidence-based and strategic guide for policymakers, enabling informed decision-making across a wide range of areas, including legislative reform, enforcement strategies, educational initiatives, and the efficient allocation of public resources.

Figure 10. Traffic Bullying Statistics and Reporting

Data Collection and Analysis Process

In order to comprehensively understand traffic bullying and effectively combat such behaviors, a multidimensional, evidence-based, and equitable data collection and analysis framework is proposed. This framework aims to ensure the transparent evaluation of highway traffic safety challenges and to strengthen public trust in traffic safety policies through accountability and data-driven governance.

Camera and Sensor Systems will serve as core instruments in highway traffic safety monitoring. Camera and sensor technologies installed at intersections, highways, and major arterial roads will enable real-time observation of driving behaviors and the systematic collection of objective data. This approach will facilitate fair, consistent, and transparent detection of traffic violations while reducing subjectivity in enforcement practices.

Citizen Reporting Mechanisms will promote active public participation in highway traffic safety efforts. Through digital platforms and mobile applications, citizens will be empowered to report traffic bullying incidents, thereby generating supplementary data based on direct observations. This participatory mechanism will enhance social cooperation, reinforce collective responsibility, and contribute to a transparent and accountable reporting system.

Surveys and Feedback Methods will be employed to capture the social and perceptual dimensions of highway traffic safety policies. Surveys conducted among drivers and pedestrians will provide insight into experiences, attitudes, and perceptions related to traffic

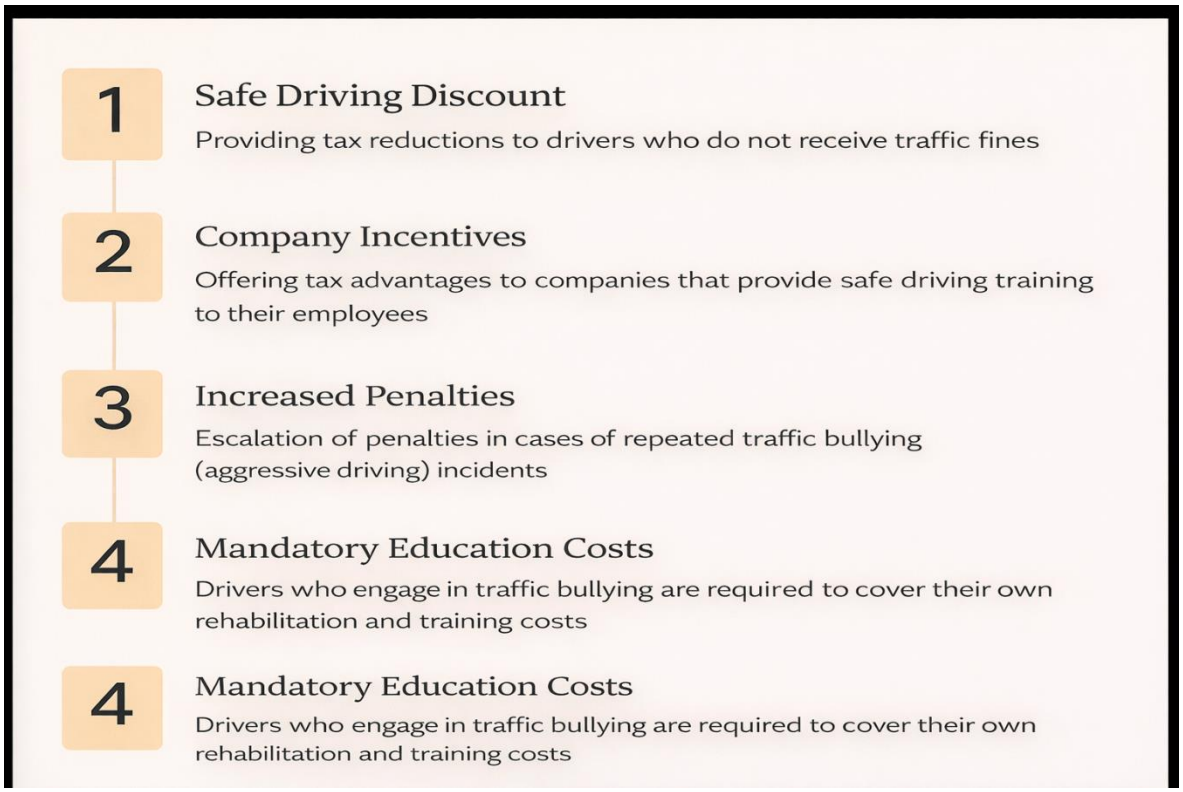
bullying and its consequences. These data will support the development of inclusive and socially responsive policy interventions.

The data collected will be analyzed using scientific and **evidence-based** methodologies. **Behavioral analyses** will enable the statistical evaluation of risky driving and traffic bullying behaviors, while **regional and temporal analyses** will identify geographic concentrations and peak periods of such incidents. These analytical outputs will facilitate the design of targeted, context-sensitive, and effective policy interventions. To ensure transparency and policy relevance, a **structured and periodic reporting mechanism** will be established. Analytical findings will be systematically communicated to policymakers and relevant stakeholders through regular reports. In parallel, simplified and accessible summaries will be **disseminated to the public**, fostering an open information-sharing environment. Collectively, these measures will ensure that highway traffic safety policies are grounded in fairness, transparency, and empirical evidence, thereby enhancing public trust and supporting the development of sustainable and effective solutions.

4.9. Economic Incentives and Sanctions

Economic incentives and sanctions constitute critical instruments for ensuring highway traffic safety and reducing traffic bullying behaviors. To promote safe driving practices, tax reductions or financial benefits may be granted to drivers who maintain a violation-free record over a defined period. At the corporate level, companies can contribute to public awareness by providing certified safe driving training to their employees, while simultaneously benefiting from targeted tax incentives. In parallel, increasing financial penalties for drivers who repeatedly engage in traffic bullying behaviors is expected to significantly enhance deterrence. Requiring offenders to bear the costs of mandatory rehabilitation, psychosocial support, or educational programs may further strengthen individual accountability and awareness. Such measures aim not only to influence individual driving behavior but also to reinforce a broader sense of social responsibility, thereby contributing to a safer and more disciplined traffic environment. The strategic use of economic instruments to encourage compliance with traffic regulations is therefore of central importance. While positive incentives can reward drivers who consistently adhere to traffic rules, financial benefits may also be extended to companies that organize accredited safe driving education programs. Conversely, escalated monetary sanctions and supplementary obligations—such as participation in community service or corrective training programs—for individuals engaging in traffic bullying serve as effective deterrent mechanisms. Collectively, these measures reinforce regulatory compliance and support the achievement of sustainable highway traffic safety outcomes.

Figure 11: Economic Incentives and Sanctions



5. KEY FINDINGS AND POLICY RECOMMENDATIONS

This report has been prepared with the objective of developing a sustainable, integrated, and human-centered public policy framework for highway traffic safety. It provides a comprehensive assessment of existing structural and behavioral problem areas and advances solution-oriented policy recommendations grounded in prevention, enforcement, and rehabilitation. Among these challenges, traffic bullying—conceptualized as the systematic misuse of power, dominance, and intimidation in traffic environments—emerges as one of the most pervasive and consequential threats to road safety. The following sections present the principal findings and corresponding policy proposals. The overarching aim is to institutionalize a sustainable traffic safety culture that prioritizes human dignity, legal certainty, and collective responsibility.

5.1. Establishing a Conceptual and Legal Framework: "Where rules are ambiguous, bullying flourishes"

Traffic bullying should not be reduced to aggressive driving incidents but recognized as a systematic, intentional, and repetitive behavioral pattern that deliberately endangers other road users. From a regulatory perspective, the absence of a clear and autonomous legal definition creates normative gaps that undermine legal certainty and weaken enforcement capacity. Accordingly, the explicit recognition of "traffic bullying" as a distinct legal category—through either criminal or administrative regulation—would address the interpretative ambiguities arising from the "concrete danger" criterion under existing legislation. Such clarification would enhance predictability, reduce discretionary

enforcement, and strengthen compliance with the principle of legality. Deterrent sanctions should be complemented by graduated psychosocial assessment mechanisms and mandatory educational interventions, particularly for repeat offenders, to ensure that punitive responses are proportionate and preventive. As the guiding principle suggests "Where rules are ambiguous, bullying flourishes".

5.2. Technology-Supported Enforcement Systems: "With smart systems, there are no blind spots"

Effective enforcement constitutes a cornerstone of any traffic safety policy. The deployment of camera and sensor systems at intersections, highways, and major arterial roads should enable real-time detection, documentation, and evidentiary recording of traffic bullying behaviors. In parallel, the active encouragement of in-vehicle camera systems can contribute to both deterrence and post-incident accountability. The expansion of mobile enforcement units, drone-assisted monitoring, and intelligent transportation systems, including automated speed detection and real-time traffic control technologies, will significantly enhance enforcement coverage and reduce enforcement asymmetries. The maxim "with smart systems, there are no blind spots" encapsulates the role of technological infrastructure in strengthening regulatory visibility and operational effectiveness.

5.3. Social and Psychological Intervention and Rehabilitation: "Conscience is what makes us human."

Traffic bullying is not solely a legal or technical issue; it is also a psychosocial phenomenon that reflects deficits in anger management, empathy, and social responsibility. For drivers who repeatedly engage in such behaviors, mandatory psychosocial assessments should be institutionalized as part of a graduated intervention framework. Evidence-based programs—including anger management training, group therapy, and virtual reality–based empathy simulations—should be systematically implemented to these drivers. By targeting the psychological roots of such conduct, policy interventions can contribute to both individual rehabilitation and the restoration of social trust. In this respect, the principle that "conscience is what makes us human" underscores the ethical dimension of traffic governance.

5.4. Educational and Cultural Transformation: "Traffic etiquette begins before the driver's license"

Long-term behavioral change requires a preventive and culturally embedded educational strategy. A compulsory module on "Combating Bullying Driving" should be integrated into pre-license and license renewal training programs. Beyond driver education, traffic ethics and civic responsibility should be incorporated into school curricula at all educational levels. Moreover, media representations that normalize or glorify aggressive driving should be subject to regulatory oversight. Through institutions such as RTÜK, sanctions may be imposed on broadcast content that promotes bullying behaviors in traffic. Education thus

functions as the foundational pillar of traffic culture, reinforcing the notion that “traffic etiquette begins before the driver’s license”.

5.5. Data Collection and Strategic Reporting: “Where there is data, there is a way”

Evidence-based policymaking necessitates systematic collection, analysis, and dissemination of traffic bullying data. Statistics derived from camera systems, sensor networks, enforcement records, and citizen reports should inform both local and national policy interventions. Regular, transparent reporting mechanisms will enable policymakers to identify behavioral trends, regional concentrations, and temporal patterns, thereby facilitating targeted and cost-effective responses. The guiding maxim “where there is data, there is a way” reflects the centrality of empirical evidence in policymaking.

5.6. Psychosocial Support and Rehabilitation: “Punishment sets boundaries; rehabilitation provides direction.”

Sanctioning mechanisms alone are insufficient to achieve durable behavioral change. Drivers who persistently engage in traffic bullying should be subject not only to escalating penalties but also to structured rehabilitation pathways, including psychological counseling, behavioral therapy, and group-based intervention programs. This approach contributes not only to individual transformation but also to broader societal recovery. The principle that “punishment sets boundaries; rehabilitation provides direction” illustrates how psychological intervention can be integrated with social solidarity.

5.7. Community Participation and Shared Responsibility: “Safe roads depend on our collective will”

Traffic safety is a shared societal responsibility that extends beyond public authorities. The active participation of civil society organizations, volunteers, universities, professional associations, and local media can significantly contribute to the dissemination of a safe traffic culture. Through coordinated awareness campaigns, volunteer initiatives, and community-based programs, traffic safety can be embedded within collective consciousness. Public policies shaped through participatory governance not only enhance legitimacy but also strengthen compliance and sustainability. Ultimately, “safe roads depend on our collective will”.

6. GENERAL EVALUATION AND CONCLUSION

Highway traffic safety in contemporary societies cannot be reduced to a purely technical or infrastructural concern; rather, it constitutes a **multidimensional domain of public policy** directly connected to the protection of the right to life, social cohesion, public order, and social justice. Within this broader framework, **traffic bullying** should be conceptualized not merely as an undesirable driving style but as a structural social problem. It reflects deficiencies in traffic safety culture, shortcomings in individual emotional regulation, and

the normalization of violence and dominance through media representations and everyday social practices.

In Türkiye, a significant proportion of traffic accidents resulting in fatalities and serious injuries stem from **systematic, behavior-based violations** rather than isolated errors. Many of these violations fall squarely within the scope of traffic bullying, including aggressive driving, coercive maneuvers, dominance-oriented behavior, deliberate intimidation, and persistent disregard for pedestrian and vulnerable road-user rights. These patterns reveal that traffic bullying is not incidental but **repetitive, intentional, and socially embedded**, thereby requiring a comprehensive policy response.

Against this backdrop, an effective policy framework must extend beyond a narrow punitive paradigm and incorporate **preventive, educational, monitoring, rehabilitative, and incentive-based dimensions**. Accordingly, the public policy approach developed in this report is structured around the integrative theme **"Recognize – Be Patient – Control – Move On"**, which provides a coherent and sequential model for addressing traffic bullying in a systematic and sustainable manner.

1. RECOGNIZE — Awareness and Education (Cognitive Recognition and Transformation of Social Perception)

The first stage aims to ensure that traffic bullying is conceptually recognized, socially visible, and cognitively internalized by individuals. Bullying behaviors often persist precisely because they are normalized or rendered invisible. Sustainable change becomes possible only when such conduct is clearly identified and publicly problematized. To this end;

- Traffic culture, ethical driving principles, and social responsibility should be systematically integrated into formal education curricula, beginning at the primary school level.
- The driver licensing process should extend beyond technical proficiency and incorporate mandatory training modules on the "recognition and prevention of bullying driving behaviors".
- Mass media should play a strategic role in shaping public perception. Public service announcements, documentaries, short videos, and digital content disseminated through national and local media outlets should explicitly address the psychological, legal, and social costs of traffic bullying.
- Furthermore, regulatory mechanisms should be strengthened to encourage media content that promotes traffic ethics. Deterrent regulations should be introduced through the Radio and Television Supreme Council (RTÜK) against scenes in TV series and films that normalize traffic bullying, while productions that model ethical driving behavior should be encouraged. Content with traffic ethics themes should be supported through public service announcements, short film competitions, and script contests to contribute to a transformation in societal behavior.

At this stage, media must function not merely as an information channel but as a behavior-modeling and norm-shaping policy instrument.

2. BE PATIENT — Behavioral Transformation and Psychosocial Intervention (Emotional Regulation and Empathy Development)

The second stage focuses on strengthening individuals' psychological and emotional regulation capacities, particularly anger management, patience, and empathy. In this context, patience should be understood not as passive tolerance but as an active self-regulation skill. Traffic bullying is frequently associated with stress, haste, intolerance, and low emotional awareness. Accordingly:

- Psychoeducational interventions supported by anger management training, behavioral therapy, group counseling, and virtual reality programs should be systematically implemented for drivers who engage in bullying behaviors.
- In cases of recurrent violations, psychosocial assessment reports should inform administrative decisions, including temporary license suspension and mandatory participation in rehabilitation programs.
- Empathy-oriented training should not be confined to driver education but embedded across school programs, media content, and community-based initiatives.
- Existing Driver Behavior Development Training (SÜDGE) programs should be expanded to include structured modules on emotional regulation, patience, and empathy.

From a policy perspective, **sustainable behavioral transformation** can only be achieved through collective and institutionalized interventions, rather than relying solely on individual responsibility.

3. CONTROL — Legal Regulation and Technological Monitoring (Structural Safeguards and Continuous Enforcement)

The third stage addresses the need for normative clarity and continuous enforcement. Traffic bullying must be explicitly defined within the legal system to enhance both deterrence and legal certainty. Explicitly defining traffic bullying within the sanctioning framework will enhance both the visibility of such behaviors and the effectiveness of enforcement. In this regard:

- The introduction of a dedicated "Traffic Bullying" section within the Highway Traffic Law would clarify prohibited behaviors, reduce interpretative ambiguity, and establish a proportional and predictable sanctioning framework.
- Smart camera systems, sensor-based analytics, in-vehicle monitoring technologies, and mobile enforcement units should be deployed at intersections, major roads, and high-risk areas.
- In parallel, a transparent, anonymous, and accessible citizen reporting mechanism should be established through mobile applications to promote public participation and accountability.
- All data collected through enforcement technologies and citizen reports should be integrated into a "National Traffic Bullying Monitoring and Reporting Network",

serving as a primary evidence base for policy formulation, risk analysis, and local intervention strategies.

4. MOVE ON — Safe Traffic Culture and Incentives (Sustainable Ethical Habits and Reinforcement)

The final stage encompasses practices aimed at ensuring the permanence of behavioral transformation, reinforcing positive conduct, and fostering a new traffic culture. In this regard:

- Drivers who consistently comply with traffic regulations and ethical driving standards should be rewarded through economic and social incentives, such as reductions in Motor Vehicle Tax, insurance premium benefits, or social scoring mechanisms. Additional incentives may include discounts or free passage on toll roads, bridges, and highways.
- At the corporate level, companies, particularly in commercial transportation, should be encouraged through public incentives to provide certified ethical driving training to their employees.
- Media representations that highlight responsible driving should be actively promoted, while aggressive and bullying behaviors should no longer be portrayed as symbols of "competence" or "success".
- Community-based initiatives, including volunteer programs, youth clubs, competitions, and public awareness events, should be expanded to foster social ownership of traffic safety and embed ethical norms within everyday practice.

Combating traffic bullying is not solely a matter of accident prevention; it constitutes a **test of civic culture** and **public values**. Ethical driving is not merely adherence to rules but an expression of respect for human dignity and social coexistence. In this respect, the framework "Recognize – Be Patient – Control – Move On" should be institutionalized as both a policy roadmap and a collective societal call.

Türkiye must adopt a **transformative and ethics-centered** paradigm in highway traffic safety that transcends punitive measures alone. The recommendations presented in this report offer concrete, feasible, and sustainable policy instruments to support such a transformation. The proposed four-stage model—grounded in awareness, emotional regulation, enforcement, and continuity—provides a scalable framework applicable from the individual to the institutional level, and from local governance to national policy. Its systematic implementation will not only reduce traffic violations but also redefine traffic safety as a shared domain of social responsibility and public trust.

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Appendix 1: Faults causing road traffic accidents involving death or injury, 2023

Faults causing road traffic accidents involving death or injury, 2023	
Kusurlar	**Toplam [e]**
Faults	Total [e]
Toplam - Total	**281 054**
Sürücü kusurları - Driver faults	**249 856**
Alkollü araç kullanmak	
Drunk driving	1 712
Araç hızını yol, hava ve trafiğin gerektirdiği şartlara uydurmamak	
Not adjusting the vehicle speed to road, weather and traffic conditions	92 539
Arkadan çarpmak	
Crashing from back	17 745
Aşırı hızla araç kullanmak	
Driving overspeed	2 176
Doğrultu değiştirme (dönüş) kurallarına uymamak	
Violating direction changing (turning) rules	17 586
Geçme yasağı olan yerlerden geçmek	
Passing through places with no-pass prohibition	2 216
Kavşaklarda geçiş önceliğine uymamak	
Violating right of way at junctions	33 980
Kırmızı ışık veya görevlinin dur işaretine uymamak	
Running red lights or violating stop signs of traffic officer	6 511
Kurallara uygun olarak park etmiş araçlara çarpmak	
Crashing to vehicles parked properly	1 569
Manevraları düzenleyen genel şartlara uymamak	
Violating the general conditions of maneuvers	16 081
Şerit izleme ve değiştirme kuralına uymamak	
Violating the lane following and changing rules	5 532
Taşıt giremez işareti bulunan yerlere girmek	
Violating "no vehicle entry" sign	7 038
Sürücünün diğer kusurlu halleri	
Other driver faults	45 171
Yolcu kusurları - Passenger faults	**1 754**
Emniyet kemeri takmamak, kask kullanmamak	
Not using safety belt and helmet	403
Araçlara kontrolsüz şekilde binmek ve inmek	
Getting on and off to vehicles carelessly	261
Yolcuya ait diğer kusurlar	
Other passenger faults	1 090
Yaya kusurları - Pedestrian faults	**25 355**
Geçit ve kavşakların bulunmadığı yerlerde geçme kurallarına uymamak	
Violating crossing rules where pedestrian crossings and junctions not exist	8 465
Trafik ışık ve işaretlerine uymamak	
Violating traffic lights ans signals	2 180
Taşıt yolu üzerinde trafiği tehlikeye düşürücü hareketlerde bulunmak	
Acting behaviours on vehicle roads that endanger traffic vehicles	7 861
Karşıdan karşıya geçişlerde trafik kurallarına uymamak	

Violating traffic rules while crossing roads	168
Taşıt yoluna girmek	
Entering the vehicle road	491
Taşıt yolunda sol kenardan gitmemek	
Not walking on the left side of the vehicle road	268
Gece ve gündüz görüşün az olduğu hallerde çarpmayı önleyici tedbirler almamak	
Not taking accident preventing cautions where night and day vision is unclear	393
Yayaya ait diğer kusurlar Other pedestrian faults	5 529
Yol kusurları - Road faults	**940**
Tekerlek izinde oturma	
Surface collapse at wheel print	13
Şerit çökmesi	
Lane collapse	9
Kismi veya münferit çökme	
Partial or discrete collapse	58
Düşük banket	

Ölümlü yaralanmalı kazaya neden olan kusurlar, 2023 Faults causing road traffic accidents involving death or injury, 2023	
Kusurlar	**Toplam [e]**
Faults	Total [e]
Low shoulder	3
Yol sathında gevşek malzeme	
Louse material on road surface	135
Yolda münferit çukur	
Discrete dips on road	208
Diğer yol kusurları	
Other road faults	514
Taşıt kusurları - Vehicle faults	**3 149**
Kusurlu fren Brake fault	588
Kusurlu rot	
Rod fault	107
Makas, şaft, şanzıman, vites arızası	
Shear, shaft, gearbox, gear fault	80
Aks kırılması	
Axle breakdown	95
Kusurlu direksiyon	
Steering wheel fault	195
Far kusuru	
Headlight fault	278
Arka lambalar	
Rear lamps fault	94
Dönüs sinyali	
Turning signal fault	57
Kapı kusuru	
Door fault	130
Lastik patlaması	
Tire blowout	394
Araca ait diğer kusurlar	
Other vehicle faults	1 131
TÜİK, Karayolu Trafik Kaza İstatistikleri, 2023	

Turkish Statistical Institute (TUIK), Road Traffic Accident Statistics, 2023

(e): Data is corrected.

Appendix 2: Number of faults causing traffic accidents involving death or injury, 2009-2023

Yıl Year	**Toplam kusur** Total faults		**Sürücü kusuru** Driver faults		**Yolcu kusuru** Passenger faults		**Yaya kusuru** Pedestrian faults		**Yol kusuru** Road faults		**Taşıt kusuru** Vehicle faults	
	Sayı-Number	(%)	**Sayı**-Number	(%)	**Sayı**-Number	(%)	**Sayı**-Number	(%)	**Sayı**-Number	(%)	**Sayı**-Number	(%)
2009	**155 982**	**100**	139 758	89,6	640	0,4	14 181	9,1	958	0,6	445	0,3
2010	**157 970**	**100**	141 728	89,7	564	0,4	14 171	9,0	992	0,6	515	0,3
2011	**174 605**	**100**	157 494	90,2	677	0,4	14 860	8,5	1 044	0,6	530	0,3
2012	**181 266**	**100**	161 076	88,9	797	0,4	17 672	9,7	1 124	0,6	597	0,3
2013	**183 030**	**100**	162 327	88,7	774	0,4	16 458	9,0	1 913	1,0	1 558	0,9
2014	**193 215**	**100**	171 236	88,6	901	0,5	18 115	9,4	1 841	1,0	1 122	0,6
2015	**210 498**	**100**	187 980	89,3	915	0,4	18 522	8,8	1 916	0,9	1 165	0,6
2016	**213 149**	**100**	190 954	89,6	869	0,4	18 612	8,7	1 717	0,8	997	0,5
2017	**213 325**	**100**	191 717	89,9	782	0,4	18 095	8,5	1 619	0,7	1 112	0,5
2018	**217 898**	**100**	194 928	89,5	1 916	0,9	18 394	8,4	1 300	0,6	1 360	0,6
2019	**204 538**	**100**	180 042	88,0	2 572	1,3	16 726	8,2	1 045	0,5	4 153	2,0
2020	**177 867**	**100**	157 128	88,3	2 577	1,4	12 520	7,0	897	0,5	4 745	2,7
2021	**224 418**	**100**	195 382	87,1	3 941	1,8	18 398	8,2	936	0,4	5 761	2,6
2022	**235 176**	**100**	204 233	86,8	2 753	1,2	22 234	9,5	902	0,4	5 054	2,1
2023 [e]	**281 054**	**100**	249 856	88,9	1 754	0,6	25 355	9,0	940	0,3	3 149	1,1

Turkish Statistical Institute (TUIK). Road Traffic Accident Statistics, 2023

Figures in table may not add up to totals due to rounding.

(e): Data is corrected.

Appendix 3: Number of victims of traffic accidents involving death or injury, 2023

Kazazedeler - Victims	**Toplam**-Total	**Erkek**-Male	**Kadın**-Female
Toplam - Total			
Ölü sayısı-Number of persons killed	**6 548**	**4 916**	**1 632**
Kaza yerinde - At accident scene	**2 984**	**2 280**	**704**
Kaza sonrası[(1)] - Accident follow-up[(1)]	**3 564**	**2 636**	**928**
Yaralı sayısı-Number of persons injured	**350 855**	**241 149**	**109 706**
Sürücü-Driver			
Ölü sayısı-Number of persons killed	**2 981**	2 864	117
Kaza yerinde - At accident scene	**1 386**	1 341	45
Kaza sonrası[(1)] - Accident follow-up[(1)]	**1 595**	1 523	72
Yaralı sayısı-Number of persons injured	**172 876**	155 278	17 598
Yolcu-Passenger			
Ölü sayısı-Number of persons killed	**2 114**	1 115	999
Kaza yerinde - At accident scene	**1 125**	616	509
Kaza sonrası[(1)] - Accident follow-up[(1)]	**989**	499	490
Yaralı sayısı-Number of persons injured	**137 205**	64 490	72 715
Yaya-Pedestrian			
Ölü sayısı-Number of persons killed	**1 453**	937	516
Kaza yerinde - At accident scene	**473**	323	150
Kaza sonrası[(1)] - Accident follow-up[(1)]	**980**	614	366
Yaralı sayısı-Number of persons injured	**40 774**	21 381	19 393

Turkish Statistical Institute (TUIK). Road Traffic Accident Statistics, 2023

(1) Includes the deaths within 30 days after the traffic accidents due to related accident and its impacts for people who were injured and sent to health facilities.

Appendix 4: Number of traffic accidents involving death or injury, persons killed and injured according to settlement, 2009-2023

Yıl Year	Ölümlü yaralanmalı kaza sayısı – Number of accidents involving death or injury: Toplam Total	Yerleşim yeri Inhabited area	Yerleşim yeri dışı Uninhabited area	Ölü sayısı - Number of persons killed: Yerleşim yeri – At inhabited area: Toplam Total	Kaza yerinde At accident scene	Kaza sonrası(1) Accident follow-up(1)	Yerleşim yeri dışı – At uninhabited area: Toplam Total	Kaza yerinde At accident scene	Kaza sonrası(1) Accident follow-up(1)	Yaralı sayısı – Number of persons injured: Toplam Total	Yerleşim yeri Inhabited area	Yerleşim yeri dışı Uninhabited area
2009	**111 121**	76 429	34 692	**1 549**	1 549	-	**2 775**	2 775	-	**201 380**	122 036	79 344
2010	**116 804**	80 517	36 287	**1 365**	1 365	-	**2 680**	2 680	-	**211 496**	129 051	82 445
2011	**131 845**	92 443	39 402	**1 346**	1 346	-	**2 489**	2 489	-	**238 074**	148 786	89 288
2012	**153 552**	111 564	41 988	**1 337**	1 337	-	**2 413**	2 413	-	**268 079**	174 418	93 661
2013	**161 306**	120 095	41 211	**1 372**	1 372	-	**2 313**	2 313	-	**274 829**	183 307	91 522
2014	**168 512**	126 537	41 975	**1 243**	1 243	-	**2 281**	2 281	-	**285 059**	191 653	93 406
2015	**183 011**	137 311	45 700	**3 671**	1 332	2 339	**3 859**	2 499	1 360	**304 421**	204 775	99 646
2016	**185 128**	138 716	46 412	**3 527**	1 198	2 329	**3 773**	2 295	1 478	**303 812**	204 459	99 353
2017	**182 669**	135 853	46 816	**3 613**	1 189	2 424	**3 814**	2 345	1 469	**300 383**	200 670	99 713
2018	**186 532**	139 922	46 610	**3 129**	1 096	2 033	**3 546**	2 272	1 274	**307 071**	206 130	100 941
2019	**174 896**	132 683	42 213	**2 598**	819	1 779	**2 875**	1 705	1 170	**283 234**	192 768	90 466
2020	**150 275**	113 863	36 412	**2 308**	709	1 599	**2 558**	1 488	1 070	**226 266**	156 465	69 801
2021	**187 963**	147 733	40 230	**2 642**	817	1 825	**2 720**	1 604	1 116	**274 615**	197 837	76 778
2022	**197 261**	162 667	34 594	**2 791**	876	1 915	**2 438**	1 406	1 032	**288 696**	220 723	67 973
2023	**235 071**	195 321	39 750	**3 619**	1 246	2 373	**2 929**	1 738	1 191	**350 855**	271 319	79 536

Turkish Statistical Institute (TUIK). Road Traffic Accident Statistics, 2023

(1) **Includes the deaths within 30 days after the traffic accidents due to related accident and its impacts for people who were injured and sent to health facilities.**

- Data not available (N/A)

Appendix 5: Persons killed and injured in road traffic accidents by age groups and gender, 2023

Yaş grubu Age group	**Toplam** - Total				**Erkek -** Male				**Kadın -** Female			
	Ölü sayısı Number of persons killed	**Kaza yerinde** At accident scene	**Kaza sonrası**[1] Accident follow-up[1]	**Yaralı sayısı** Number of persons injured	**Ölü sayısı** Number of persons killed	**Kaza yerinde** At accident scene	**Kaza sonrası**[1] Accident follow-up[1]	**Yaralı sayısı** Number of persons injured	**Ölü sayısı** Number of persons killed	**Kaza yerinde** At accident scene	**Kaza sonrası**[1] Accident follow-up[1]	**Yaralı sayısı** Number of persons injured
Genel toplam General total	**6 548**	**2 984**	**3 564**	**350 855**	**4 916**	**2 280**	**2 636**	**241 149**	**1 632**	**704**	**928**	**109 706**
0-9	**259**	**76**	**183**	**23 846**	**148**	45	103	13 909	**111**	31	80	9 937
10-14	**163**	**52**	**111**	**17 266**	**110**	36	74	11 022	**53**	16	37	6 244
15-17	**241**	**70**	**171**	**21 442**	**207**	56	151	16 733	**34**	14	20	4 709
18-20	**317**	**153**	**164**	**29 952**	**259**	121	138	23 898	**58**	32	26	6 054
21-24	**572**	**276**	**296**	**45 439**	**482**	233	249	35 512	**90**	43	47	9 927
25-64	**3 684**	**1 902**	**1 782**	**189 174**	**2 820**	1 479	1 341	125 390	**864**	423	441	63 784
65+	**1 312**	**455**	**857**	**23 730**	**890**	310	580	14 681	**422**	145	277	9 049
Bilinmeyen Unknown	**0**	**0**	**0**	**6**	**0**	0	0	4	**0**	0	0	2

Turkish Statistical Institute (TUIK). Road Traffic Accident Statistics, 2023

(1) Includes the deaths within 30 days after the traffic accidents due to related accident and its impacts for people who were injured and sent to health facilities.

Appendix 6: Persons killed and injured in road traffic accidents by age groups and gender, 2024

Persons killed and injured in road traffic accidents by age groups and gender, 2024														
	Toplam - Total					**Erkek -** Male					**Kadın -** Female			
	Ölü sayısı	**Kaza yerinde**	**Kaza sonrası[1]**	**Yaralı sayısı**		**Ölü sayısı**	**Kaza yerinde**	**Kaza sonrası[1]**	**Yaralı sayısı**		**Ölü sayısı**	**Kaza yerinde**	**Kaza sonrası[1]**	**Yaralı sayısı**
Yaş grubu Age group	Number of persons killed	At accident scene	Accident follow-up[1]	Number of persons injured		Number of persons killed	At accident scene	Accident follow-up[1]	Number of persons injured		Number of persons killed	At accident scene	Accident follow-up[1]	Number of persons injured
Genel toplam General total	**6 352**	**2 713**	**3 639**	**385 117**		**4 843**	**2 074**	**2 769**	**266 815**		**1 509**	**639**	**870**	**118 302**
0-9	**258**	**69**	**189**	**24 579**		**160**	45	115	14 038		**98**	24	74	10 541
10-14	**144**	**33**	**111**	**17 805**		**101**	26	75	11 245		**43**	7	36	6 560
15-17	**240**	**72**	**168**	**26 012**		**202**	56	146	20 308		**38**	16	22	5 704
18-20	**412**	**169**	**243**	**41 238**		**344**	135	209	33 257		**68**	34	34	7 981
21-24	**547**	**253**	**294**	**53 105**		**477**	221	256	41 406		**70**	32	38	11 699
25-64	**3 445**	**1 670**	**1 775**	**197 490**		**2 636**	1 283	1 353	131 120		**809**	387	422	66 370
65+	**1 304**	**445**	**859**	**24 878**		**921**	306	615	15 434		**383**	139	244	9 444
Bilinmeyen Unknown	**2**	**2**	**0**	**10**		**2**	2	0	7		**0**	0	0	3
Turkish Statistical Institute (TUIK). Road Traffic Accident Statistics, 2024														
(1) Includes the deaths within 30 days after the traffic accidents due to related accident and its impacts for people who were injured and sent to health facilities.														

Appendix 7: Number of Traffic Accidents, persons killed and injured by province, 2024

İllere göre trafik kaza, ölü ve yaralı sayısı, 2024
Number of traffic accidents, persons killed and injured by province, 2024

İl Province	Toplam kaza sayısı [1] Total number of accidents[1]	Toplam motorlu kara taşıtı sayısı Total number of road motor vehicles	Ölümlü yaralanmalı kaza sayısı Number of accidents involving death or injury	Ölü sayısı - Number of persons killed			Yaralı sayısı Number of persons injured
				Toplam Total	Kaza yerinde At accident scene	Kaza sonrası[2] Accident follow-up[2]	
Toplam-Total	**1 444 027**	**31 301 389**	**266 855**	**6 352**	**2 713**	**3 639**	**385 117**
Adana	**32 431**	896 419	6 784	**218**	91	127	9 696
Adıyaman	**5 139**	151 123	2 227	**56**	20	36	3 441
Afyonkarahisar	**9 131**	295 788	2 682	**127**	25	102	4 745
Ağrı	**2 182**	34 565	806	**19**	3	16	1 511
Amasya	**4 937**	153 419	1 541	**42**	18	24	2 422
Ankara	**164 669**	2 783 571	16 584	**325**	167	158	22 895
Antalya	**58 778**	1 571 626	13 401	**290**	116	174	18 048
Artvin	**1 536**	47 479	364	**15**	10	5	560
Aydın	**17 537**	624 709	5 426	**137**	65	72	7 444
Balıkesir	**20 523**	641 764	5 753	**167**	82	85	8 167
Bilecik	**2 978**	88 533	903	**26**	12	14	1 334
Bingöl	**1 822**	22 768	742	**21**	10	11	1 388
Bitlis	**2 041**	27 747	732	**19**	9	10	1 396
Bolu	**5 699**	145 587	1 020	**50**	20	30	1 651
Burdur	**3 639**	174 573	1 486	**62**	28	34	2 392
Bursa	**69 634**	1 243 113	9 608	**160**	73	87	13 350
Çanakkale	**7 444**	315 420	2 428	**89**	35	54	3 455
Çankırı	**2 594**	69 400	825	**34**	17	17	1 414
Çorum	**8 367**	212 401	2 130	**69**	34	35	3 485
Denizli	**20 479**	542 606	4 353	**128**	64	64	6 101
Diyarbakır	**14 453**	171 418	3 685	**100**	29	71	6 195
Edirne	**5 610**	196 090	1 217	**54**	25	29	1 662
Elazığ	**6 876**	164 687	1 373	**51**	20	31	2 263
Erzincan	**3 442**	77 190	1 030	**50**	32	18	1 720
Erzurum	**8 265**	142 086	1 614	**74**	34	40	2 769
Eskişehir	**15 848**	366 049	2 957	**50**	26	24	4 320
Gaziantep	**24 858**	725 458	5 978	**118**	79	39	9 249
Giresun	**4 764**	115 779	1 139	**17**	9	8	1 866
Gümüşhane	**1 065**	30 461	399	**18**	7	11	749
Hakkari	**707**	10 857	322	**5**	4	1	662
Hatay	**19 210**	667 324	6 871	**160**	44	116	10 032
Isparta	**5 790**	228 806	1 994	**66**	18	48	2 998
Mersin	**28 870**	836 281	8 256	**151**	91	60	11 561
İstanbul	**351 729**	5 840 973	33 636	**315**	166	149	41 414
İzmir	**104 959**	1 954 408	15 025	**223**	119	104	19 381
Kars	**1 398**	51 532	468	**10**	3	7	841
Kastamonu	**4 360**	162 685	1 228	**46**	16	30	2 061
Kayseri	**27 089**	484 322	5 154	**158**	59	99	8 122
Kırklareli	**4 037**	166 092	1 077	**42**	22	20	1 739

İl Province	Toplam kaza sayısı [1] Total number of accidents[1]	Toplam motorlu kara taşıtı sayısı Total number of road motor vehicles	Ölümlü yaralanmalı kaza sayısı Number of accidents involving death or injury	Ölü sayısı - Number of persons killed			Yaralı sayısı Number of persons injured
				Toplam Total	Kaza yerinde At accident scene	Kaza sonrası[2] Accident follow-up[2]	
Kırşehir	**2 806**	83 991	806	**18**	3	15	1 241
Kocaeli	**45 454**	580 110	6 688	**127**	29	98	8 931
Konya	**40 136**	928 837	8 566	**300**	115	185	12 750
Kütahya	**6 657**	264 345	1 840	**73**	24	49	2 745
Malatya	**11 006**	234 471	2 547	**94**	35	59	4 184
Manisa	**19 752**	789 697	5 961	**147**	78	69	8 784
Kahramanmaraş	**15 110**	327 635	4 327	**104**	33	71	6 718
Mardin	**4 405**	103 259	1 586	**44**	20	24	2 723
Muğla	**22 902**	717 695	7 260	**182**	78	104	9 888
Muş	**1 370**	40 232	467	**17**	11	6	976
Nevşehir	**5 108**	160 819	1 492	**43**	17	26	2 283
Niğde	**4 537**	139 846	1 418	**33**	30	3	2 254
Ordu	**11 466**	189 835	2 535	**40**	18	22	3 780
Rize	**4 360**	99 235	1 120	**27**	15	12	1 604
Sakarya	**19 174**	396 822	3 849	**104**	41	63	5 454
Samsun	**24 702**	496 984	5 117	**101**	28	73	7 441
Siirt	**1 709**	27 971	830	**18**	5	13	1 199
Sinop	**2 333**	78 151	823	**34**	17	17	1 381
Sivas	**7 916**	201 888	2 044	**60**	20	40	3 605
Tekirdağ	**17 400**	354 569	3 670	**75**	48	27	5 252
Tokat	**6 701**	236 922	2 456	**64**	26	38	3 739
Trabzon	**10 385**	269 950	2 152	**47**	16	31	3 104
Tunceli	**629**	12 529	234	**12**	6	6	381
Şanlıurfa	**11 231**	325 220	4 361	**166**	68	98	6 954
Uşak	**5 712**	175 807	1 522	**44**	16	28	2 216
Van	**5 969**	88 983	1 881	**51**	18	33	3 330
Yozgat	**3 867**	128 999	1 270	**46**	26	20	2 218
Zonguldak	**6 991**	193 108	1 759	**49**	15	34	2 598
Aksaray	**6 312**	168 296	1 638	**68**	28	40	2 740
Bayburt	**692**	19 053	187	**9**	2	7	331
Karaman	**3 894**	111 930	1 076	**33**	7	26	1 564
Kırıkkale	**3 952**	80 943	1 105	**33**	9	24	1 806
Batman	**4 389**	62 525	1 233	**43**	11	32	1 940
Şırnak	**2 128**	37 685	993	**41**	10	31	1 558
Bartın	**2 232**	64 507	623	**28**	7	21	976
Ardahan	**600**	20 977	172	**4**	2	2	368
Iğdır	**1 230**	35 619	466	**15**	1	14	677
Yalova	**4 947**	91 688	1 202	**25**	12	13	1 647
Karabük	**3 648**	79 895	920	**25**	10	15	1 356
Kilis	**1 614**	67 015	1 095	**18**	7	11	1 481
Osmaniye	**6 619**	229 225	2 890	**71**	22	49	4 147
Düzce	**7 092**	149 012	1 456	**57**	27	30	2 294

TÜİK, Karayolu Trafik Kaza İstatistikleri, 2024

TurkStat, Road Traffic Accident Statistics, 2024

(1) Toplam kaza sayısı değerleri ölümlü yaralanmalı kazalar ile maddi hasarlı kazaların toplamıdır.

(1) Total number of accidents figures are the sum of accidents involving death or injury and accidents involving material damage.

(2) Trafik kazasında yaralanıp sağlık kuruluşuna sevk edilenlerden kazanın sebep ve tesiriyle 30 gün içinde ölenleri kapsamaktadır.

(2) Includes the deaths within 30 days after the traffic accidents due to related accident and its impacts for people who were injured and sent to health facilities.

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